# HIV-INFECTED CONSUMERS' PERCEIVED EFFECTIVENESS OF HIV/AIDS-RELATED SERVICES WITHIN THE STATE OF GEORGIA

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ABSTRACT

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HIV-INFECTED CONSUMERS' PERCEIVED EFFECTIVENESS

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This study examines perceived effectiveness of Human Immunodeficiency Virus (HIV)/Acquired Immune Deficiency Syndrom (AIDS)-related services within the state of Georgia by the HIV-infected consumer. Because this study used archival data (statewide epidemiological information), a secondary data analysis was conducted to administer this study. An extrapolation of the original consumer survey was utilized as one of the data collection methods; and the Georgia Consumer Services Assessment was the primary instrument utilized in this study. A method of convenience sampling was used to acquire the original 232 HIV-infected consumers within the sample population. The sample population was a representation of HIV-infected consumers across the state of Georgia. Perceived effectiveness of services was measured across demographic variables, barriers to services, years diagnosed, and type of provider. The findings of this study indicate that most respondents perceive services as having some degree of effectiveness for risk reduction.

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# CHAPTER I

## INTRODUCTION

In the early 1980s, the Human Immunodeficiency Virus (HIV)/Acquired Immune Deficiency Syndrom (AIDS) epidemic was responded to mostly through grassroots efforts. As a result, the government responded to HIV/AIDS through policies, regulations, and laws that have resulted in both domestic and global health programs (Kaplan, Tomaszewski, & Gorin, 2004). For the last two decades, social workers have responded to the epidemic through direct service and promoting policy implementation or changes. However due to changing health concerns, as well as political concerns within the nation, HIV/AIDS does not appear to be a priority at this time. Therefore, social workers are forced to respond to the epidemic with creative and effective services and interventions. Before discussing some of these services and interventions, it is important to be aware of the populations that are being disproportionately affected by this disease (Kaplan, et al., 2004).

During the 1980s, the population most often identified as being HIV-infected was the gay European-American male. As a result, the services that were needed at the beginning of the epidemic were directed towards this population. Twenty years later, the face of HIV is very different. HIV/AIDS is increasingly affecting women, Latinos, men of color who have sex with men, and older adults (Kaplan, et al., 2004).

In 2004, the Centers for Disease Control and Prevention (CDC) estimated that 1,039,000 to 1,185,000 people were living with HIV/AIDS in the United States, with 24-27% being undiagnosed and unaware of their HIV infection (CDC, 2004). The CDC estimated that 890,000 were between the ages of 15 years and 49 years old; and approximately 362,000 of these people were living with AIDS. The latter represents a 14% increase in the number of AIDS cases since 1999 (Kaplan, et al., 2004).

To understand the prevalence of this disease among some of the aforementioned affected populations, these estimates will be discussed in more detail. The categories that will be discussed include: ethnicity, gender, age, and geographic trends.

According to the CDC (2004), AIDS rates among African-American men and women increased by 150% between 1993 and 2001 compared with a 68% rate increase among European-American population. Also, rates of HIV/AIDS among communities of color were significantly higher than those of European-American people when considering their percentage of the total population. For example, African-Americans make up 12% of the United States population, yet account for 76.3% of individual's with AIDS. African-American teenagers (ages 13 years to 19 years) make up only 15% of United States teenagers, but accounted for almost two-thirds (61%) of new AIDS cases reported among teenagers in 2001 (CDC, 2004).

The proportion of new AIDS cases among women has also increased. There are a significant number of AIDS cases that are represented by African-American women as opposed to European-American women. There were 7,113 newly reported AIDS cases among African-American women in 2001 compared with 1,981 among European American women (CDC, 2004).

However, in both groups, the majority of women were likely to be affected by heterosexual contact rather than injection drug use. Seventy-five percent of the women who are HIV infected between the ages of 13 and 24 were infected by heterosexual contact (CDC, 2004).

Another culture that has been overrepresented within the HIV population is the Latina female in the United States. It was also reported that this population accounted for 18% of the new infections. Latina adolescent girls, ages 13 years to 19 years of age accounted for more than one-half (57%) of new HIV infections in 2001 that occurred in this age group. In addition, two-thirds of AIDS diagnoses among women since the epidemic's start were among ages 30 to 49, one-fifth (21%) were diagnosed in their 20s, and about 1 in 10 women was diagnosed with AIDS at age 50 years or older (CDC, 2004).

Since 1990 there has also been an increase of HIV-infection in the transgender population. Transgender is an umbrella term used to refer to a diverse group of individuals who cross or transcend culturally defined categories of gender. They primarily include those who live in the gender role associated with another sex without desiring sex reassignment surgery (Bockting, Robinson, Rosser, 1998). According to Bockting, et al., high risk behaviors such as unprotected anal intercourse, needle sharing, substance abuse, compulsive sexual behavior, and prostitution were observed among this population (Bockting, et al., 1998).

During the last decade, there has also been a trend in the age categories of persons living with AIDS. In 2002, the Centers for Disease Control and Prevention (CDC) estimated that there were 42,104 people who were 55 years of age or older living with

AIDS; 8,902 were ages 65 or older. In contrast, the figure for people 24 years and younger was 8,677 (CDC, 2004).

The last trend that will be discussed is the geographic trend. The CDC (2004) reported that there is a disproportionate amount of AIDS cases within the Southern portion of the United States. Research from the Kaiser Family Foundation indicates that one of the reasons for this disproportion may be due to the poverty of the region. The Kaiser Family Foundation also reported that the AIDS rates among women who live in the South continue to increase -- 7 out of the 10 states with the highest AIDS rates among women are in the South (CDC, 2004).

As illustrated by the aforementioned statistics, this epidemic has affected an array of populations. Because of the diversity of the infected population, appropriate funding is needed so that effective services and interventions can be provided. A large portion of monetary resources for social services is funded through the Federal government. According to Harvey, federal funding for HIV/AIDS prevention, intervention, care services, and research is seemingly a patchwork of policies that are part of other administrative, policy, regulatory, and legislative decisions. These policy directives are shaped by science, congressional directives, pressures from constituents and organizations, professional judgments, and personal values (Harvey, 2002).

For the fiscal year of 2005, President Bush proposed an estimated $19.8 billion for United States and global HIV/AIDS funding to Congress. The largest portion of discretionary funding was for the Ryan White CARE (Comprehensive AIDS Resources Emergency) Act. Another program that would receive monies would be the AIDS Drug

Assistance Program (ADAP); other discretionary funding would cover cash, housing assistance, prevention, and research (CDC, 2004).

## Statement of the Problem

Many of the HIV/AIDS organizations in the United States are community-based organizations (CBOs), health departments, and nonprofit organizations; therefore, they rely heavily upon federal, state, and local funding. Many times these allocated monies have guidelines that the agency must follow in order to ascertain and maintain the funding. Once an agency receives the allocation, it is important that the money is utilized in an appropriate and efficient manner. Social workers use these discretionary funds for various services and interventions, such as mental health care, case management, testing, education, substance abuse education and counseling, and housing and food assistance (CDC, 2004).

It is also important to note that allocations from the federal government are not distributed equally among the fifty states and the District of Columbia. Therefore, services or the abundance of services that are offered in one state may not be offered in another. At times this disbursement may be dependent upon the region of the country and at other times the need of the state (CDC, 2004).

At the end of 2004, the Centers for Disease Control and Prevention reported that the state of Georgia had 28,248 cumulative known AIDS cases and 2,590 HIV cases (Kaiser Family Foundation, 2005). During the fiscal year of 2005, the state of Georgia received $71, 039,490 in total Ryan White CARE Act funding of the $1,983,796,235 that was distributed throughout the fifty states and the District of Columbia. Again with this

money, community-based organizations and other agencies are to provide the most appropriate and effective services to the HIV-infected consumer (CDC, 2005).

However, often times an agency offers services to a targeted population that are perceived as needed and beneficial by the provider or other entities, not the consumer. As a result the providers may not offer adequate services; because, the provider does not understand the range of issues related to a person's HIV status. Because the HIV-infected consumer is confronted with various issues and the provider with new trends within the world of HIV/AIDS, it becomes imperative that the services provided to the consumer are appropriate. If the services are not found to be appropriate by the consumer, it may translate into perceived inadequacy and ineffectiveness of services by the consumer. Perceived inadequacy and ineffectiveness may lead to non-utilization of services.

## Purpose of the Study

The purpose of this study is to gain insight on whether consumers who are HIV-infected perceive HIV/AIDS services offered in the state of Georgia as being effective for risk reduction. This study was designed to examine the perceived effectiveness of services in three areas: demographic variables, barriers, and years diagnosed. Type of provider will be examined in the context of delivery of services, which is an element of perception of effectiveness of services. The services that will be studied are: individual and group level interventions, street and community outreach, community level interventions, and prevention case management. It is important to note that for the purpose of this study services and interventions will be used interchangeably.

The participants of the study were diagnosed HIV-infected consumers who were receiving services from a variety of organizations and agencies that provided services to the targeted population.

## Research Questions

The research questions of the study were as follows:

1. Is there a relationship between demographic variables and the perceived effectiveness of HIV/AIDS related services for risk reduction by the HIV-infected consumer within the state of Georgia?
2. Is there a relationship between barriers to services and the perceived effectiveness of HIV/AIDS related services for risk reduction by the HIV-infected consumer within the state of Georgia?
3. Is there a relationship between years diagnosed and the perceived effectiveness of HIV/AIDS related services for risk reduction by the HIV-infected consumer within the state of Georgia?
4. Is there a relationship between type of provider and perceived effectiveness of HIV/AIDS related services for risk reduction by the HIV-infected consumer within the state of Georgia?

## Hypotheses

The null hypotheses for the study were as follows:

1. There is no statistically significant relationship between demographic variables and the perceived effectiveness of HIV/AIDS related services for risk reduction by the HIV-infected consumer within the state of Georgia.

2. There is no statistically significant relationship between the barriers to HIV/AIDS related services and the perceived effectiveness of risk reduction by the HIV-infected consumer within the state of Georgia.
3. There is no statistically significant relationship between years diagnosed and the perceived effectiveness of HIV/AIDS related services for risk reduction by the HIV-infected consumer within the state of Georgia.
4. There is no statistically significant relationship between type of provider and the perceived effectiveness of HIV/AIDS related services for risk reduction by the HIV-infected consumer within the state of Georgia

## Significance of the Study

In order for consumers to live a longer and healthier life, it is important that the services and interventions provided to them are effective. Unfortunately, many times the consumers do not have input as to what areas the funding should be allocated.

The importance of this study is to examine the perceived effectiveness of services through the opinions of the consumer. Once examining this information, it will help provide insight on services and interventions that may be perceived as requisite to assist the HIV-infected consumer in the state of Georgia with living a better quality of life.

# CHAPTER II

## REVIEW OF LITERATURE

The literature review will review HIV/AIDS from three perspectives: the historical perspective, services that are provided to HIV-infected consumers, and the chronic care model. In reviewing the aforementioned perspectives of HIV/AIDS, one will begin to understand the modification of services that have been provided from both a psychosocial, as well as, a medical perspective.

The historical perspective will be divided into five categories: a timeline outlining important events (primarily within the United States) from 1978-2006. The timeline will include pertinent information such as how AIDS was discovered, the politics of this disease within the medical field as well as the White House, and the development of antiretrovirals.

Secondly, this chapter will briefly examine the psychosocial perspective of persons living with HIV as well as the comprehensive discussion about the services and interventions that have been offered and provided to the HIV-positive consumer. The services that will be discussed are individual level interventions; group level interventions; street and community outreach; community level interventions; health communication and public information; counseling, testing, and referral; partner counseling and referral services; prevention case management, and adherence

intervention. There also will be some exploration of measurement instruments that may be utilized to analyze the validity of services as it relates to quality, effectiveness, and availability of services.

The last perspective will be reviewed from the lens of a theoretical framework, the Chronic Care Model.

## Historical Perspective of HIV/AIDS

Human immunodeficiency virus (HIV) is the virus that causes acquired immune deficiency syndrome (AIDS). The history of HIV/AIDS has been reported from as early as 1978. In order to better understand the epidemic, a timeline will be presented representing the progression of the disease.

It is unknown how many cases of HIV or AIDS there were prior to 1978 (Kanabus, Annabel, Fredrikkson, & Jenni, 2006). However in 1978, both gay men in the United States and Sweden as well as heterosexuals in Tanzania and Haiti began showing signs of a disease, which would later be termed AIDS. According to AIDS Education Global Information Systems (AEGIS), the aforementioned cases were a few of the first documented cases of the disease that is now called AIDS. By 1980, there were 31 documented AIDS related deaths (AEGIS, 1998).

On June 5, 1981, the Centers for Disease Control and Prevention (CDC) reported that five young men (all homosexuals), were treated for pneumocystis carinii pneumonia at three different hospitals in Los Angeles, California. This occurred from the period October 1980-May 1981, two of the patients died (Kaiser Family Foundation, 2001). With that statement, the CDC's *Morbidity and Mortality Weekly Report (MMWR)*

published the first clinical reports of what would become known as acquired immune deficiency syndrome (AIDS). Until 1981, the doctor's had primarily diagnosed PCP in immunosuppressed patients, such as elderly patients or those receiving chemotherapy for cancer (Kaiser Family Foundation, 2001). The research noted that none of these gentlemen were aware of one another and had no known common sexual contacts; however, it was surmised through research that there was an association between some aspect of the homosexual lifestyle or a disease acquired through sexual contact and PCP (*MMWR*, 2001). In addition to PCP, there were other opportunistic infections that became more prevalent – namely, Kaposi's Sarcoma (KS).

The CDC (1981) reported that within two and a half years, there were twenty-six cases of Kaposi's Sarcoma (KS) -- a form of skin cancer -- reported among gay males of which eight died within a two year period of the diagnosis. Although research had determined that there was a link between opportunistic infections KS and PCP, there was a continuous undermining of the discovery by such quotes as "it is not yet clear" (Kaiser Family Foundation, 2001).

With the documented link between lifestyle and opportunistic infections, there became an assumption that persons who were heterosexual were not at risk for contracting this new disease. As a result, Altman printed a direct quote in the July 3, 1981 edition of the *New York Times* stating that Dr. James Curran, CDC spokesperson, said, "There was no apparent danger to non-homosexuals from contagion" (Kanabus, et al., 2006). By the end of the year in 1981, there were 234 known AIDS-related deaths in the United States (AEGIS, 1998).

The year of 1982 was the first year the CDC reported this new disease among other groups, such as Haitians, hemophiliacs, and intravenous drug users -- IDUs. This discovery led the CDC to link the new disease to blood. Because scientists made this discovery, names for the disease such as GRID (gay-related immune deficiency) were no longer appropriate. Therefore a new term was used to describe the disease -- AIDS. According to Kanabus, et al., (2006), the term AIDS was used for the first time in July, 1982. The number of known AIDS cases in the United States by July 1982 was 452, the number of known AIDS-related deaths in United States during 1982 was 853, and President Reagan still had not mentioned the word "AIDS" in public.

In 1983, the CDC began to focus on evidence that AIDS may be linked to blood. As a result, the CDC began to warn blood banks of possible tainted blood supplies for precautionary measures. The year 1983 also brought the discovery of Human Immunodeficiency Virus (HIV) via the Institut Pasteur in France. The end of 1983 brought a cumulative total of 2,304 AIDS-related deaths (AEGIS, 1998).

Although HIV was discovered in 1983 at the Institut Pateur, this discovery was not without controversy. In 1984, Dr. Robert Gallo (United States) claimed he discovered the virus that causes AIDS; however, this was about one year after the French discovery. The controversy about who discovered the virus that causes AIDS would prove to be costly within the scientific field. Kaiser Family Foundation (2001) documented that the controversy (over patent rights) led to three years of feuding, which prolonged the use of a blood test that could screen for HIV antibodies. President Reagan continued to elude using the word AIDS in public and the number of known AIDS-related deaths within the United States continued to escalate (AEGIS, 1998).

In 1985, the Federal Drug Administration (FDA) approved the first HIV antibody test, testing blood products in the United States and Japan was implemented, and the first International Conference on AIDS was held in Atlanta. President Reagan mentioned the word "AIDS" in public for the first time in September 1985 when responding to a reporter's question--this occurred after the death of Rock Hudson (actor); the known AIDS-related deaths within the United States during 1985 was 5,636 (AEGIS, 1998).

It is also important to mention that prior to the death of Rock Hudson, Reagan's administration had appropriated funding for AIDS research (1982). A few days after the death of Rock Hudson, the House allocated $189.7 million to AIDS programs. However, Reagan's administration continued to oppose additional funding for public education campaign programs about AIDS (Kaiser Family Foundation, 2001).

By 1986, President Reagan mentioned AIDS in his "Message to the Congress on America's Agenda" for the Future on February 6, 1986. In addition to the aforementioned, the United States Surgeon General, C. Everett Coop, published a comprehensive document on AIDS, which described transmission and strongly recommended comprehensive sex education classes within the school system and it also urged parents to have open and candid discussions about AIDS. The known cumulative AIDS-related deaths was 16, 301 (AEGIS, 1998).

Nineteen hundred and eighty-seven (1987) brought several milestones within the history of AIDS. One of the most important milestones is the agreement reached between the Institut Pasteur and the United States Health Department of Health and Human Services to share the profits that would come from the HIV antibody test. This agreement was the outcome of the decision of the Institut Pasteur against the United

States Department of Health and Human Services to end its court case regarding the patent for the HIV antibody test. Another important milestone in the fight against AIDS was the Federal Drug Administration's (FDA) approval of the first antiretroviral medication, AZT, in 1987 (Kanabus, et al., 2006).

The aforementioned was also a year (1987) that appeared pivotal regarding the United States' outlook on AIDS. The federal government appeared to begin to understand the severity and importance of both prevention and intervention of AIDS. This is illustrated by the following: on April 2, 1987, President Reagan appeared before the College of Physicians in Philadelphia to deliver the first major speech on AIDS calling it "public enemy number one," and the FDA announced a two year shortening in the drug approval process. The number of known AIDS-related deaths in the United States during 1987 was 4,135. Both Liberace (entertainer) and Michael Bennett (Broadway director) would be statistics in the death count of 1987 (AEGIS, 1998).

The year 1988 marked the United States' ban on discrimination against federal workers with HIV and 107 million copies of "Understanding AIDS,"—a booklet by Surgeon General C. Evertt Koop was widely distributed and read by 86.9 million readers. During 1988, the FDA also approved importation of non-approved treatment for Persons Living with HIV/AIDS (PWLHA) personal use. The number of known AIDS-related deaths in the United States during 1988 was 4,855 (Kanabus, et al., 2006).

Starting in 1989, there appeared to be a trend for awareness about AIDS. There was a new Surgeon General elected to the United States government, who appeared to have a great deal of knowledge and concern about AIDS and its effects on families. This was the year that Occupational Safety and Health Administration (OSHA) made its first

attempt to control biological hazards through universal precautions (Kaiser Family Foundation, 2001).

In 1990, the number of known deaths in the United States was 18,447—including Halston (American fashion designer) and Ryan White (teenager, hemophiliac, AIDS activist). Although Ryan White lived a short life, he had a large impact on the disease regarding advocacy. As a result, the Ryan White Comprehensive AIDS Resource Emergency (CARE) Act was developed and passed in the summer of 1990. This act provided federal funding for health and social services for persons living with the virus. During 1990, AIDS was also included as a disability under the American Disabilities Act (ADA) (Kaiser Family Foundation, 2001).

In 1991, there was an estimated ten million people diagnosed as living with HIV worldwide and more than one million were in the U.S. Also during this time, an important piece of legislation was implemented -- Housing Opportunities for Persons with AIDS (HOPWA). HOPWA provides housing assistance and related supportive services for low-income persons with HIV/AIDS and their families (Kaiser Family Foundation, 2001).

Nineteen hundred and ninety-three (1993) was the year President Clinton decided to challenge the ban on HIV-status as a criterion for entry into the United States. Clinton's plea to eliminate the ban proved to be unsuccessful. In addition to evaluating the initial decision on the HIV ban status, there were also other revisions that were being evaluated and implemented. For example, the CDC revised its definition of AIDS, including new opportunistic infection. The FDA also refused to allow testing for anal sex, saying sodomy is illegal in too many states (AEGIS, 1998).

In 1995, two primary antiretrovirals were approved for use in the United States: saquinavir, which was the first anti-HIV drug in the protease inhibitor class and epivir, a nucleoside reverse transcriptase inhibitor. In addition, 1995 brought the admission of the United States reporting that it was the Institut Pasteur (France) not Robert Gallo (National Institute of Health-US) who discovered the virus that causes AIDS. The United States continued to refuse HIV-infected immigrants and travelers entry into the country. The number of known AIDS-related deaths in the US during 1995 was 48,371 -- including "gangsta' rapper, Easy-E (AEGIS, 1998).

During 1997, the CDC reported first case of probable HIV transmission through kissing, as well as, a decline in AIDS-related deaths in the United States. The number of known AIDS-related deaths during 1997 in the United States was 21, 399. The approximate total worldwide death count was 6,400,000; the approximate number of HIV-infected people worldwide -- 22,000,000 -- this number is larger than the total population of the continent of Australia (AEGIS, 1998). The number of known AIDS-related deaths in 1998 were 17,403; 1999, 16,762; 2000, 14,499; 2001, 8,998; 2002, 16,371; cumulative deaths through 2002 was 501,669 (Kaiser Family Foundation, 2001).

The number of cumulative reported AIDS cases within the state of Georgia through 2004 was 28,248 and 918,286 AIDS cases within the United States. (CDC, 2005). However, the most recent discovery within the HIV/AIDS arena has been the approval of a three drug combination that is encased in one pill. This one pill is known as atripla. Atripla is a combination of sustiva and truvada (viread and emtriva) (Zwillich, 2006). The FDA approved this drug in July 2006 with hopes that this one pill will

simplify the drug regimen. Although this is a very important discovery, it is important to understand that this drug is expensive and the financial burden of this drug may be a barrier to individuals who may benefit.

## Psychosocial Perspective

When reviewing the history of HIV/AIDS, it is important to recognize that while statistics are numbers, they are also representative of actual people. These are people who had lives prior to an HIV diagnosis and will continue to have lives after an HIV-diagnosis. However, one should examine how the life of an individual may alter once being diagnosed as HIV-infected. An example of how one's life may change may be best illustrated through a case study that occurred in the early 1990s.

### Jose

This case study is about a 32-year old Mexican-American male (Jose) who realized at the age of 14 years that he was attracted to men. Jose had his first homosexual experience at the age of 16-years old. Because Jose was afraid that his parents would not approve of his homosexual orientation, he decided to leave home at the age of 18 years. Jose, Jose's younger sister, and Jose's father were all professionals in different fields. Jose's mother was a housewife (Ruiz, 2000).

For the last three years, Jose had been living with his lover, who was approximately two years older. Jose presented to the psychologist that he was concerned about losing approximately twenty-five pounds within a six month period as well as an inability to sleep. During Jose's presentation, he also appeared nervous and preoccupied with contracting HIV. According to Jose, he had been conscientious about practicing

safer sex; however, after he and his partner had lived together for a year, they had decided to practice unsafe sex; because, both had tested HIV negative in the past and stated a commitment to one another in the form of a monogamous relationship. The psychiatrist and Jose discussed Jose taking another HIV-test. The psychiatrist convinced Jose that the test would be confidential and that no one would find out. Jose agreed -- approximately three weeks later the HIV-test returned positive. The results were given to Jose by the psychiatrist. The psychiatrist discussed medical treatments as well as psychosocial issues with Jose. By the end of the session Jose appeared to be calm, as if he had known that his HIV status was positive prior to HIV-diagnosis. For the next few sessions, Jose discussed anger and resentment towards his partner (his partner had a sexual encounter outside of the relationship and became infected) and at times toward the world. Eventually, Jose's partner attended counseling with Jose and they decided to remain a couple (Ruiz, 2000).

A few years later, Jose's health began to deteriorate -- medications were not working, his short-term memory appeared to be impaired and he began to consider medical leave from work. As his illness progressed, there were other issues that surfaced. Jose began to contemplate suicide as well as spirituality/religion, legal issues (will and power of attorney) and being true to himself. As a result, Jose, with the help of his psychiatrist, revealed his sexual orientation to his family. After many sessions with Jose and Jose's family, his family began to accept his lifestyle. Also with Jose's declining health, there were feelings of guilt that were displayed by Jose's partner who was stabilized, but had infected Jose (Ruiz, 2000).

Eventually Jose died, but he died accepting himself and his life choices. When Jose died, he died with his both his family, his partner, and his counselor by his side (Ruiz, 2000).

The aforementioned case study synopsis illustrates some of the psychosocial issues of the life of an HIV-infected individual pre-post HIV diagnosis. Psychosocial issues were both explicitly and implicitly mentioned. Many of the issues mentioned were those of anger, guilt, anxiety, loss of job, acceptance, frustration, preoccupation with death, and stigma. Although many individuals may experience the aforementioned feelings at some time in life, one may surmise that having a chronic illness will only intensify these emotions. One of the primary underlying issue appeared to be stigmatization. This concern was exhibited in the act of Jose leaving home at 18 years of age as well as his father's initial issue of denial when he was informed of Jose's sexual orientation and status.

## Stigma

According to Goffman, stigma can be defined as an attribute that is deeply discrediting within a particular social interaction. Health Resources and Services and Administration (HRSA) stated that Goffman's definition of stigma focuses on society's attitude toward people who possess attributes that fall short of public expectations. Also according to Goffman, a person who is stigmatized is reduced in our minds from a whole and usual person to a tainted, discounted one (HRSA, August 2003).

Goffman states that some diseases carry more stigmas than others. For instance, the person who carries the disease is often seen as responsible for having the disease; the

disease is not well understood among the public, the disease is both progressive and incurable; and the symptoms cannot be concealed (August, 2003). HIV disease can be directly correlated to the formula devised by Goffman (HRSA, August 2003).

As outlined in the case study and in history, the person who has been diagnosed as HIV-infected in the past has been affiliated with individuals, who may not be considered as desirable in the public -- intravenous drug users and persons with homosexual orientation. Although the disease is treatable, it is not curable; lastly, in the final stage of AIDS, many symptoms cannot be concealed.

In short, HIV/AIDS-related stigma refers to unfavorable attitudes, beliefs, and policies directed toward people perceived to have HIV/AIDS as well as their loved ones, associates, social groups, and communities. The stigma is rooted in prejudices involving gender, sexuality, illness, and race (HRSA, August 2003). Stigma may affect self-esteem, access to care, mental health, and the provider's willingness to treat people with HIV (HRSA, 2005).

According to Klein, there are three types of intervention that may be implemented to combat HIV/AIDS-related stigma and benefit the consumer: statutory and regulatory, policy development, and programs and services (Klein, Karchner, & O'Connell, 2002).

Statutory and regulatory environment interventions entail providers familiarizing themselves with the rights of PLWA(s) on state, local, and federal levels. The benefit of this intervention is twofold: it minimizes the possibility of discriminatory behavior towards an HIV-infected consumer and it allows the provider to serve as a well-informed advocate on behalf of the consumer.

The policy and development intervention states that the consumer should be involved in the program design, development, and evaluation of programs and policies; the provider or advocate should support and engage other agencies in promoting confidentiality and nondiscrimination (collaborative agreements); and promoted community development and mobilization.

The last intervention that may be implemented to combat HIV/AIDS related stigma is the use of program and service interventions. There a checklist of practical items that a provider or social worker may enforce to combat HIV/AIDS-related stigma among the general population as well as colleagues. The checklist is as follows:

- Use public education opportunities to put a face on AIDS.
- Involve people living with HIV/AIDS in public education.
- Show the diversity of the epidemic.
- Support HIV prevention education materials developed by and for communities.
- Maintain a proactive presence in the community (e.g., in schools, at health fairs, World AIDS Day, and National HIV Testing Day events).
- Involve and support families and communities both infected and affected.
- Engage leaders from both the business and faith communities.
- Develop and implement training, policies, and procedures for all staff activities and programs.
- Integrate within contracts relative provisions for prevention, care, and supportive services.
- Seek, value, and support a staff reflective of the diversity of communities.
- Provide training and technical assistance on confidentiality, nondiscrimination, and cultural diversity to staff, contractors, and other health, and human service providers.

- Educate clinicians so that they are not reluctant to treat PLWA(s).
- Ensure access to both confidential and anonymous HIV testing.
- Integrate HIV prevention into primary care.
- Integrate primary and secondary prevention.
- Communicate that HIV-related discrimination is illegal.
- Support and promote legal services for consumers.
- Remain cognizant of issues related to social isolation and stigma in rural areas.
- Identify and support one or more staff members in the role of consumer advocate.
- Implement policies and procedures for complaints.
- Follow through on enforcement (Klein, et al., 2002).

Although these are excellent suggestions that can be used to minimize HIV/AIDS-related stigma, it is important to understand that there are other psychosocial issues that may occur -- as was outlined earlier. As a result other interventions and services that may be necessary to aide the HIV-infected consumer with living a better quality of life as it relates to HIV/AIDS-related psychosocial issues.

Because of the complexities of HIV-related psychosocial issues and their potential to create barriers to services; it becomes very important for a social worker who provides social services to be aware of current trends with this targeted population. Awareness allows HIV/AIDS service providers to gain insight on the appropriate services and interventions needed to assist persons living with AIDS (PLWAs). It is also important to note that the advent of medical treatment has been a major catalyst in the

progression and implementation of current social services and interventions (Britton, 2000).

## Individual Level Intervention

Individual level interventions must involve client-centered health education, risk reduction counseling, and skills building activities that are provided to one individual at a time (KAREnet, 2004). There was a study conducted by Paula J. Britton that examined the implications of new HIV/AIDS medical treatments for counseling. The results of this study determined that individuals were living longer and healthier lives. As a result, the concerns for HIV-infected individuals have either multiplied, intensified, or changed altogether. In this particular study, Britton (2000) reported that an individual may need a place to express pain and rage. In addition, Britton found that individuals who are HIV-infected may feel guilty for having feelings of negativity (although medical treatments are allowing them to live longer). Support networks may not be the most therapeutic environments for an HIV-infected consumer to discuss negative, but valid feelings because others may not respond in a positive way; therefore, individual counseling may be deemed more appropriate. Britton (2000) also reported that counseling could assist around issues of medical adherence. Helping clients gain understanding of their own patterns of resistance and corresponding behaviors may give clients opportunities to change behaviors and make choices that are more thoughtful (Britton, 2000).

*HIV Risk Behaviors and Their Correlates Among HIV-Positive Adults with Serious Mental Illness* revealed that interventions that may be most effective to reduce high-risk behavior may be most appropriately provided through the public mental health

system since that is where most of them receive primary mental health treatment. The study further reported that HIV counseling from their usual source of care was a strong and consistent correlate of risk (Tucker, Kanouse, Miu, Koegel, & Sullivan, 2001).

Discussion of individual HIV-counseling, mental health counseling, and risk reduction counseling have been mentioned; however, there are many other categories of counseling that will be examined later. The last form of individual counseling that will be mentioned within this section is peer counseling. A peer can be defined as one who has equal standing with another or others, as in rank, class or age. In the HIV/AIDS field, peers often have the same serostatus (HRSA, June 2005).

Peer counselors are effective because they often can "relate." According to Debbie DeRosalia, peer advocate, she reports that she has a special connection with clients because, "We can relate to one another; we walk in the same pair of shoes, so to speak. The patients might tell me more than they may tell a doctor or case manager because I am just like they are; I am one of them. When I tell them that I am also infected, it seems to close a door and open a window. The patient feels comfortable to know we have this connection; it allows us to bond (HRSA, June 2005).

DeRosalia (2005) who works with newly diagnosed consumers also reported that she has observed, "With the newly diagnosed, I let hem know there is life after an HIV/AIDS diagnosis. The virus is no longer a death sentence, and they can survive this chronic illness. I help them to understand the definition of T-cells and viral load and the importance of taking their meds consistently, why they need to be adherent and the danger of resistance. Together we try to come up with a plan to help them figure out

what behaviors they possess and what behaviors they need to change in order to have a good quality of life" (HRSA, June 2005).

Both quotes from DeRosalia (2005) imply that peer counseling is beneficial; because it allows a consumer to have hope for a life of possible longevity, opportunities, and "normalcy." As a result, one may deduce that the consumer's self-esteem and self worth will be healthy -- healthy enough to be influential with maintaining medical and emotional stability.

Case management is the last one-on-one intervention that will be discussed. Sowell and Grier describe case management as a "client-focused process that augments and coordinates existing care services" (Chernesky & Grube, 2000). Chernesky, et al., found in there research that case management was an essential services to those who were both infected and affected by HIV. Case management is implemented in many instances when a consumer is in a crisis (situation that needs an immediate response or there will be negative consequences). Therefore, a case manager has to possess many skills, such as advocacy skills, mental health counselor, HIV counselor, liaison, and educator. Case management's goal appears to be to provide the consumer with stability, reliability, and support.

## Group Level Interventions

For the purpose of this document, group level interventions must involve multiple health education, risk reduction counseling, and skills-building sessions that shift the delivery of services from the individual to groups of varying sizes (KAREnet, 2004). While individual level interventions are helpful and needed, group level interventions,

such as support groups, are needed as well. Group level interventions allow HIV-infected consumers to share concerns and life experiences among one another. In some instances, an HIV-infected individual may need this support; because, he or she may not feel alone in their emotions or feelings.

To support the aforementioned premise, Hyde, Appleby, Weiss, Bailey, and Morgan (2005) conducted a study that described the perceived influence of group-level HIV interventions. Hyde, et al., developed a broad range of group-level interventions that entailed such activities as small skills-building workshops, educational forums, and intensive weekend gatherings. According to Hyde, et al., there is a relationship between psychosocial issues and HIV-related risk taking; therefore, the interventions were designed to promote HIV education, reduce risk-taking behavior, help participants become acquainted with the concept of a social support system. The results of this research appeared positive. Participants talked highly of their experiences in group-level interventions suggesting that they should be considered an important prevention strategy for people living with HIV (Hyde, et al., 2005).

## Street Community Outreach

Street community outreach may be a combination of both individual level intervention and group level intervention. Street community outreach is creative intervention that works primarily with hard to reach target populations. Many individuals who are HIV-infected continue high-risk behaviors. Some of these populations include intravenous drug users (IDUs), sex workers , and teens. This intervention is an educational encounter that involves individuals or small groups

conducted by peer or paraprofessionals for HIV risk reduction by materials in a target areas (KAREnet, 2004).

The needle exchange program is an example of street community outreach. Needle exchange programs are designed to reduce the risk of HIV-transmission through needles. Outreach workers provide intravenous drug users with clean syringes. During this process, the worker provides the consumer with counseling and an opportunity for treatment.

In 1990, New Haven, Connecticut was the first city on the east coast that implemented a legal needle-exchange program. Matthew Lopes, coordinator of AIDS services in New Haven, Connecticut reported that his program combines the needle exchange with counseling and treatment programs (Gentile, 2005). According to Lopes each time injection drug users exchange used needles, they have an opportunity to receive treatment.

Although one-third of all new AIDS cases in the United States can be traced to injection drug users who share infected needles--according to National Institute on Drug Abuse -- there has been a documented 12.3% documented decline in AIDS cases since 1990, and there continues to be objection and resistance to Needle Exchange Programs by legislators. This objection is primarily a difference in philosophy. Some politicians do not believe that needle exchange program reduce risk, but condone drug use (Gentile, 2005).

This controversy also applies to other street outreach methods, such as distribution of condoms. It is a common practice for practitioners and workers that service HIV-infected consumers to discuss the practice of safer sex. One of the primary

recommendations is the use of condoms for those who are sexually active or thinking of becoming sexually active. Condom use has also been proven to reduce the risk of transmission of HIV. As a result, many workers who focus on both intervention and prevention are likely to promote condom distribution in environments where a person is more apt to engage in high risk behaviors. Some of these places include night clubs, shooting galleries (place where IDUs engage in drug use), and in neighborhoods or areas noted to be occupied by sex workers.

From 1987-1991 Colorado Springs, Colorado implemented a street outreach program that targeted STD/HIV prevention. The street outreach team distributed condoms and consistently discussed testing and counseling with the sex workers. The results of this experiment yielded a reduction in STD/HIV-transmission among sex workers (*MMWR*, 1992).

Also the year of 1988, New York City's Planned Parenthood decided to implement a program entitled Project Street Beat. Because Project Street Beat works on the streets, they can "reach clients where they are," touts the nonprofit agency (Planned Parenthood, 2005). Project Street Beat serves the people who live on the street -- teens, women, and men. The programs and services offered by this program are:

- Basic survival services--such as food, clean clothes, and condoms;
- HIV/AIDS testing, education, counseling, and prevention interventions;
- Harm risk reduction counseling;
- Testing and treatment for common sexually transmitted diseases;
- Hepatitis C testing and referrals;
- Pregnancy testing, prenatal counseling, and referrals for service;

- Contraception; and
- Primary health care.

It is important to note that all of these services are provided out of a minivan with a mobile medical unit. Although no statistics were provided on the success of Project Street Beat, it is important to note that since its inception, it has provided assistance to 100,000 HIV-infected and high risk behavior individuals -- inclusive of the substance users, commercial sex workers, homeless people, and at-risk youth.

## Community Level Interventions

Community level intervention occurs at the community level. This intervention is designed to target specific populations that are identified by shared risk behaviors for HIV infection. It can also be defined by race, ethnicity, gender, sexual orientation, and/or location (KAREnet, 2004).

Often times community level intervention is provided by community-based organizations (CBOs). Community-based organizations may provide an array of services: case management, counseling, HIV testing, HIV education, and a referral source such as housing. These organizations also tend to focus on targeted populations, such as women or youth. However, intervention can also come from various housing agencies, religious institutions, or businesses.

A documented study in Health and Medicine Week described a study in detail in which the participants were between the ages of 12 and 17 years. The participants were dispersed throughout fifteen low-income housing developments within the United States. The program had three components: skills-training only workshop, community-level

intervention, or an AIDS education-only program. Participants completed a Teen Health Survey -- at the beginning of the study and eighteen months later to assess HIV risk behavior and related factors. The themes of self-respect and pride were integrated throughout the community intervention and adolescents were involved in community activities and events. Workshops on HIV/AIDS risk were offered to parents. The study revealed that community-level intervention increased condom use and minimized high risk behavior. In addition to the results of this study, the author also reported that community level interventions had proven to be successful with gay men, injection drug users, and inner-city women (Health and Medicine Weekly, 2005).

Another type of community level intervention is the church or faith-based organization. Within the last decade, Faith-based Organizations (FBOs) have attempted to become a part of the intervention efforts. An example of this may be AIDS Ministries that many churches have implemented.

## Health Communication and Public Information Programs

All of the aforementioned interventions are equally important; however, none of these services could be successful without the promotion of health communication and public information programs. According to KAREnet, this intervention involves the delivery of planned HIV prevention messages and public information through one or more channels to target audiences to build general support for safe behavior (KAREnet, 2004).

Health communication encompasses the study and use of communication strategies to inform and influence individual and community decisions that influence

health. The premise of health communication is to promote and provide accurate information to as many people as possible so that informed decisions will be a catalyst in developing and implementing a change in lifestyle as well as health policies. While distribution of public information is extremely important for any health issue, it is especially pertinent for issues that have been stigmatized and historically presented with misinformation, such as HIV/AIDS. Because health communication links the spheres of health and communication, its significance to the concepts of health promotion and disease prevention are extensive. Health communication can assist in the improvement of health professional-patient relationships; individuals' exposure to, search for, and use of health information; individuals' adherence to clinical recommendations and regimens; the construction of public health messages and campaigns; the dissemination of individual and population health risk information that is risk communication; images of health in the mass media and the culture at large; the education of consumers about how to gain access to the public health and health care systems; and the development of telehealth applications (Office of Disease Prevention and Health Promotion, 2005).

Health communication is a component of public information programs. Public Information Programs serve as an important component of health communication. According to the CDC, the purpose of a public information program is to craft and deliver data-driven and consumer based messages and strategies to target audiences (CDC, 1995). Successful public information programs share a number of basic characteristics: an efficient and capable manager; planned activities that are tailored to the target audiences' community; a variety of activities that can be implemented to the target population over a period of time; measurable program objective(s) or purpose; a

commitment to evaluation; a time table; and efficient utilization of resource (CDC, 1995).

## HIV Counseling, Testing, and Referral (CTR)

CTR ensures that HIV-infected persons and persons at increased risk for HIV have access to HIV testing to promote early knowledge of their HIV status (to receive high-quality HIV prevention counseling to reduce their risk for transmitting or acquiring HIV and have access to appropriate medical, preventive, and psychosocial support services) (KAREnet, 2004).

To better understand CTR, the following illustration has been provided. Upon an initial day of testing, a counselor speaks with a consumer about why he or she would like to take the test, the type and accuracy of the HIV antibody test (orasure, oraquick, or a blood test) offered, the confidentiality or anonymity surrounding the test, what the test results may indicate, and may possibly discuss high risk behaviors and how to reduce them. During this time, the consumer is at liberty to discuss concerns.

Counseling may also take place while an individual is waiting on the results. For instance if the consumer is experiencing anxiety while awaiting test results, the counselor may schedule an appointment with consumer. Dependent upon the situation and the test results received, counseling may continue whether it is short-term or long-term. In addition to counseling, appropriate referrals are recommended by the counselor. Some of the referrals may be for case management services, substance abuse or treatment programs, or partner counseling and referral services.

An example of the aforementioned process is that of the Wisconsin CTR Program which consists of thirty-three agencies providing counseling and testing services in forty-nine locations throughout the state (Wisconsin Department of Health and Family Services, 2005).

The Wisconsin CTR program activities follow the guidelines of the CDC that were revised in 1999; the program activities include:

- Readily accessible counseling, testing and referral services for individuals at high risk for HIV;
- Testing at low or no cost to individuals who would not otherwise be able to afford testing;
- Anonymous testing for persons with confidentiality concerns that might prevent them from seeking services;
- Client-centered counseling designed to reduce client risk of acquiring or transmitting HIV;
- Appropriate referrals for medical or psychological evaluation and social support;
- Referral for or assistance with the notification of sexual and needle sharing partners (Wisconsin CTR, 1999).

## Partner Counseling and Referral Services

Partner Counseling and referral services (PCRS) was once known as contact tracing. PCRS is an outreach activity that encompasses finding, diagnosing, and treating partners of persons infected with HIV (CDC, 2005).

According to the CDC, the goals of PCRS are two-fold. The first goal is to provide services to HIV-infected persons and their sex and needle sharing partners so they can avoid infection or, if already infected, can prevent transmission to others; the

second goal, to help partners gain earlier access to individualized counseling, HIV testing medical evaluation, treatment, and other prevention services (CDC, 2005).

Through PCRS, persons are informed of their exposure to HIV. The individuals, who are notified may determine whether they wish to take an HIV-antibody test. If a person chooses not to test for HIV, or is found to be uninfected via an HIV antibody test, then risk reduction counseling, such as safer sex practices, will be provided to avoid future exposure to HIV. If an individual tests positive, then he or she may have the advantage of access to early treatment, which can be an important component in a prolonged quality of life. Once a person is diagnosed as being HIV-infected, the option of prevention case management is available.

## Prevention Case Management

There are various types of prevention interventions. Prevention interventions are targeted to help individuals living with HIV (and their partners) adopt and sustain HIV and STD risk reduction, treatment adherence, and effective strategies for coping with HIV/AIDS (Gordon, Forsyth, Stall, & Cheever, 2005).

Prevention interventions are relatively new and both scientists and practitioners are currently experimenting with prevention trials to find several evidenced-based prevention interventions that will comply with its goal. An example of a prevention intervention is "Healthy Relationships." Healthy Relationships is an intervention that has been adopted by several community-based organizations. The program was open to both same-sex and opposite sex couples. The primary purpose of this intervention was to allow participants to discuss, think about, and anticipate for future life decisions. This is

an intervention that can be conducted in approximately two and half weeks. The CDC has adopted this intervention as an evidenced-based prevention intervention. One of the older prevention interventions that is being revised is Prevention Case Management.

Prevention Case Management (PCM) for HIV is an intervention developed in the early 1990s by combining individual HIV risk reduction interventions and case management (Purcell, DeGroff, & Wolitski, 1998).

Gasiorowicz, Llanas, DiFranceisco, Benotsch, Brondino, Catz, Hoxie, Reiser, and Vergeront conducted a research project from 2000-2003 in Wisconsin. There were approximately three hundred and fifty participants and one hundred and nine completed both baseline and follow-up risk assessments. The results were as follows, there was a decline from 41.3% to 29.4% of individuals who were HIV-infected participating in high-risk behaviors by the end of the project (Gasiorowicz, et al., 2005). High risk behavior with the sample population consisted of unprotected vaginal and anal intercourse and the sharing of needles.

## Adherence Intervention

Thus far most of the interventions that have been discussed have been interventions that target psychosocial stressors that may be present or exacerbated due to the HIV infection. However, there is another intervention that is just as important, adherence. In recent years, scientists and doctors have invented antiretroviral that allow HIV-infected persons to live longer and with a better quality of life. Presently, highly active antiretroviral therapy (HAART) is one of those treatments. When PLWHAs are able to meet its challenging adherence requirements, HAART can be a nearly miraculous

drug regimen that drastically reduces viral replication and damage to the immune system, and restores daily functioning and well-being (HRSA, May 2005). However, medical providers have encountered problems with patients or consumers complying. Research has been unable to determine the characteristics of individuals who may or may not adhere to HAART. While there are several barriers to high adherence, such as a long list of potential side effects, possible mental illness, and poverty-related factors, some doctors and clinicians support the idea of adherence intervention--regardless of cost. According to the CARE Act Special Projects of National Significance (SPNS) Adherence Initiative, high adherence to HAART is increased in a medical setting, as opposed to a social service setting, distribution of pill boxes has been suggested so that a consumer will know exactly when to take medications, and cash incentives have been found to be helpful as well as involving the patient in the decision-making process about the regimen. These are only a few suggestions that were recommendations found to be valuable through the four year initiative which ended in 2003. Because of the impact that has been made with HAART, the implementation of a structured adherence intervention will more than likely continue to be researched.

In addition to the aforementioned services and interventions, there has been a movement to provide more theory and evidenced-based approaches when providing services to HIV-infected consumers. Three of these approaches are the CDC Initiative, the A-B-C Approach, and the Diffusion of Effective Behavioral Interventions (DEBI).

## CDC Initiative

In 2003, the CDC in conjunction with the United States Department of Health and Human Services and other agencies (both government and non-governmental), implemented an initiative entitled Advancing HIV Prevention: New Strategies for Changing an Intervention. This intervention concentrated on four areas: making HIV testing a routine part of medical care, implementation of new models for diagnosing HIV infections outside medical settings, prevention of new infections by working with persons diagnosed with HIV and their partners, and to further decrease perinatal HIV transmission (MMWR, 2003).

In 2000, an estimated two million people took CDC funded tests for HIV; 18,000 tests were representational of new HIV diagnosis. However, 31% of the 18,000 positive test results were never received because the results were never picked up (CDC, unpublished data, 2000). The aforementioned result is one of the reasons the CDC decided to make HIV testing a routine part of medical care.

The year 2002 presented a study with a sample population of 7, 236 persons, who had been newly diagnosed with HIV. This study revealed that 42% of the sample population decided to take the test for HIV because they had been ill. Ten percent of HIV-infected men and 17% of HIV-infected women reported that they took the test; because it was offered by a healthcare facility or provider (CDC, unpublished, 2002).

According to the CDC (2002), many individuals who test as HIV-infected adopt risk reduction behaviors. For instance, a study that provided a sample population of 1,363 showed that 69% of HIV-infected males and females were sexually active within twelve months prior to the study. Seventy-eight to 96% of the 69% reported condom use

during their most recent encounter with anal or vaginal intercourse with a known HIV-negative partner; and 52%- 86% reported condom use with an individual with whom HIV status was unknown (CDC, unpublished data, 2000).

The primary purpose of the CDC Initiative is to reduce barriers to early diagnosis of HIV-infection and increase access to quality medical care, treatment, and ongoing prevention services. This initiative known as "Prevention with Positives" utilizes proven public health approaches to help reduce both the incidences and spread of HIV. Some of the principles of the approaches that are being used with this initiative have been applied as prevention methods for other sexually transmitted diseases (STDs) (CDC, unpublished data, 2000).

As stated earlier Prevention with Positives consists of four key strategies. The first strategy that will be discussed is making HIV testing a routine part of medical care. Before this initiative, the CDC suggested that medical staff and personnel in a clinical setting recommend HIV testing to those individuals who were considered to be at high risk (intravenous drug users and those who were having unprotected sex). However, this initiative focuses on the low risk population as well as the high risk population. As a result, an individual should be given the option to take a HIV test during a routine medical visit. In addition to help simplify the testing process, it will not be a requirement for medical facilities to provide the standard pre-test counseling (CDC, unpublished data, 2000).

The second strategy of this project implemented new models for diagnosing HIV infections outside medical settings (CDC, unpublished data, 2000). In 2003, the CDC funded demonstration projects. These demonstration projects utilized Oraquick. One

can receive their results from OraQuick within twenty minutes of administration. If the results are positive, it is still recommended that an individual take the Western Blot for confirmation. Nevertheless, the expediency of this preliminary HIV test, OraQuick may lead to early detection of a positive HIV-diagnosis. Once diagnosed the state and local governments both support and recommend referral to treatment, care, and prevention services.

Prevention of new infections through education is the third strategy (CDC, unpublished data, 2000). As stated earlier, when individuals are diagnosed as HIV-positive, many begin to practice safer sex. However, in some instances, continuous prevention counseling is needed to maintain a change of behavior or to continue risk reduction activities. Therefore the CDC decided to work closely with the National Institute Health (NIH) and Health Resources, Service Administration (HRSA), and the HIV Medical Association of the Infectious Disease Society of America in order to publish *Recommendations for Incorporating HIV Prevention into the Medical Care of Persons with HIV Infection.* The CDC will also work closely with individuals who are HIV-infected and not receiving prevention and care services. Lastly the CDC began to stress partner notification. Along with partner notification, there also was an emphasis placed on rapid HIV testing to partners and prevention counseling provided by peer counselors (CDC, unpublished data, 2000).

The last strategy that was written into the CDC Initiative: "Prevention with Positives" was to develop a plan that would decrease perinatal HIV transmission. This particular strategy recommends that routine HIV testing of all pregnant women as well as

routine screening of any infant whose mother was not screened (CDC, unpublished data, 2000).

The CDC was due to launch this initiative in 2003. Currently, the initiative is being used in several healthcare settings, CBOs, and hospitals. In addition to the Prevention with Positives model, there are also other models that are being used by other organizations; for instance, the A-B-C Approach.

## A-B-C Approach

A number of articles point to Uganda as the originator of the A-B-C Approach, however, the slogan itself was popularized in the late 1990s in Botswana. Although information about abstinence and safer sex practices had been provided about HIV prevention in the past, Botswana implemented the term A-B-C Approach as a slogan. A-B-C is the acronym for:

- Abstinence (avoid sexual activities that could cause transmission of HIV);
- Be Faithful (reduce risk of HIV transmission through avoiding sexual intercourse, unless it is with a mutually faithful uninfected partner); and
- Condomise (reduce risk of sexual transmission of HIV through correct and consistent use of condoms) (Kanabus, Annabel & Noble, Rob, 2006).

The aforementioned slogan, along with an aggressive campaign to reduce the risk of HIV/AIDS within Botswana proved to be successful. However in later years, there have been variations of this slogan by different organizations---namely The Joint United Nations Programme for HIV/AIDS (UNAIDS) and the President's Emergency Plan for AIDS Relief (PEPFAR). The United States began adopting the A-B-C Approach in

December 2002 (Kanabus, et al., 2006). UNAIDS definition of the aforementioned approach is as follows:

- Abstinence or delaying first sexual encounter;
- Being safer by being faithful to one partner or by reducing the number of sexual partners; and
- Correct and consistent use of condoms for sexually active young people; couples in which one partner is HIV-positive, sex workers and their clients, and anyone engaging in sexual activity with partners who may have been at risk of HIV exposure.

When reviewing UNAIDS definition of this approach, there is very little deviation from Botswana's slogan. The controversy the various approaches seem to be related to PEPFAR's translation of the approach. Unlike Botswana, PEPFAR -- a United States funded Initiative -- implemented an A-B-C Approach, which proved to be more population specific. As a result of this more population specific model, controversy surfaced. PEPFAR delineates A as meaning abstinence for youth (including abstinence until marriage), B is the represents being tested for HIV and maintaining a monogamous and faithful relationship -- including marriage -- and C represents correct and consistent use of condoms for those who practice high risk behaviors.

Because PEPFAR's definition does not appear to advocate or promote the consistent and correct use of condoms for young people, in addition to abstinence, many AIDS Service Organizations (ASOs) and HIV/AIDS advocates have expressed concerns about its possible effectiveness (Kanabus, et al., 2006).

## Diffusion of Effective Behavioral Interventions (DEBI)

The last approach that will be mentioned is the National Diffusion of Effective Behavioral Interventions (DEBI). According to the CDC, the goal of DEBI is to develop and coordinate a national-level strategy to provide high quality training, technical assistance, and other capacity building activities to diffuse science-based HIV interventions to state-and-community-level HIV programs (Collins, 2006). DEBI consists of several community level, individual level, and group level interventions. In order for an intervention to be classified as a DEBI, it has to go through a nine step process. This nine step process ranges from the planning stage to the evaluation stage. One of the primary purposes of DEBI is to ensure that there is a systematic and well researched approach for effective service delivery. Although DEBI is a relatively new theoretical approach, it appears that many AIDS service organizations (ASOs) are embracing the change.

## Evaluation of HIV/AIDS Services

As mentioned earlier, DEBI has an evaluation system that embedded in its process. In addition to this theoretical approach with an evaluation process, there are also individual organizations and agencies that have evaluation systems for its specific programs. Many of the CBOs and ASOs that provide interventions and services are funded or receive a portion of their funding from the Ryan White CARE Act, others do not. As mentioned earlier, the Ryan White CARE Act provides comprehensive care to HIV-infected individuals. The annual budget for this bill is one billion dollars. McInnes, Landon, Malitz, Wilson, Marsden, Fleishman, Gustafson, & Cleary completed a study to

determine whether or not there was a difference in patient characteristics. McInnes, et al., (2004) collected patient data in 1996-1997 and clinic data 1998-1999, the results yielded that patients at CARE Act clinics were younger, less educated, poorer, and more likely to be female, non-white, unemployed, uninsured, and have heterosexual contact as an HIV risk factor, compared to patients at other HIV clinics (McInnes, et al., 2004). Furthermore, CARE Act clinics tended to specialize in HIV care, had more infectious disease specialists, had fewer total patients, and provided more support services (McInnes, et al., 2004).

Evaluations such as this are important. Evaluations allow agencies to correct or improve some methods and continue to enhance others to benefit the targeted population. According to HRSA, evaluations are more crucial than ever (HRSA, March 2005).

There are guidelines that should be used when evaluating a program. For instance, there are principles utilized when evaluating CARE Act programs for continuous quality improvement (CQI). The purpose of implementing a CQI program is to: assess the extent to which HIV health services are consistent with the most recent Public Health Service guidelines for the treatment of HIV disease and related opportunistic infections; and to develop strategies for ensuring that such services are consistent with the guidelines for improving the accessibility and quality of HIV services (HRSA, 2003).

Just as evaluating the efficiency of the program to maintain the agency's funding stream is important, evaluation of the perception of the validity of services by the consumer is equally critical. If you are being funded but not reaching or helping the

intended population, the consumer is not benefiting and more than likely the funding stream will "dry up."

## Focus Groups

While quantitative research, typically involves a large sample population and elaborate statistical analyses, qualitative research usually involves a small number of subjects. The emphasis of qualitative research is on the quality or responses pertaining to the information being studied (Cohen, Montague, Nathanson, & Swerdlik, 1988).

One method of qualitative research is the focus group. Focus groups are small groups that have as their objective, the acquisition of information based on the perceptions, beliefs, traditions, and values of its participants (Calderon, Baker, & Wolf, 2000).

Recently, the use of focus groups has become more acceptable and has been used more frequently within the social service and health care field. Reasons for the use of focus groups are multiple. For instance, focus groups are used to complement quantitative research. Calderon, et al.'s qualitative research for studying culturally diverse groups was an example of the aforementioned. Focus groups can be used to assist decision-making before, during, or even after an event, program, or implementation of a policy (Sharts-Hopko, 2001).

The information collected can be used as a part of a needs assessment, asset analysis, climate survey, or program development, or pilot testing, and focus groups may include providers, as well as, potential consumers of services (Sharts-Hopko, 2001).

Sharts-Hopko (2001) cites an example in which the staff at an Oregon counseling center wanted to implement a men's program. Prior to implementing the program, the staff wanted to investigate possible barriers to men receiving treatment. Therefore, the staff conducted seven focus groups with men to determine possible barriers. The data collected from the focus group allowed the individuals developing the program to reduce the risk of designing a program that would be unsuccessful as it relates to consumer participation (Sharts-Hopko, 2001).

During implementation of a program, focus groups may be utilized for monitoring, reporting, feedback, process evaluation, and formative evaluation. Program effectiveness, as well as, satisfaction among consumers and providers of services are appropriate topics for focus groups. If a focus group is used during this phase of a program, it can be deduced that it is being used to evaluate the effectiveness and validity of a program as perceived by consumers. This is also the method in which quality improvement is examined. Quality improvement may also be examined by a focus group (Sharts-Hopko, 2001).

## Consumer Surveys

Another form of qualitative research is the administering of the consumer survey. The consumer survey is a questionnaire that has questions ranging from the demography of a targeted population to the consumers' attitudes, utilization, need, effectiveness and perceived validity of services that are offered and provided to the consumer. Although the consumer survey may be subjective and in some instances qualitative, the survey instrument can be designed to be evaluated through quantitative measures; thereby,

making the results measurable and to some more scientific (California Department of Health Services and Northern California Grantmakers AIDS Task Force, 1998).

## Theoretical Framework

Periodically, throughout the literature review, it was mentioned that HIV-infected individuals were living longer. As a result, the medical profession has begun to view HIV as a chronic disease, as opposed to a terminal illness (HRSA, 2006). There are a number of frameworks that may be used when one is evaluating any concept that targets the HIV/AIDS population; however due to the changing needs of the population, Dr. Ed Wagner's Chronic Care Model (CCM) seemed to be the best theoretical framework that supports the changing trends; because, it appears to encompasses all of the major systems in a healthcare setting that can affect a consumer's quality of life. According to Mark Kunik, the CCM "provides evidenced-based change concepts under each element that are intended to promote productive interactions between active, informed patients and providers with resources and expertise."

The CCM identifies six essential elements of a health care system that encourage high-quality disease care. These elements are: the community, the health system, self-management support, delivery system design, decision support, and clinical information system. Each element has components that help operationalize the respective element. The original model will be outlined before reviewing an element of its adaptation.

A. Community (policies and resources) - the primary goal is to mobilize community resources to meet the needs of patients. Its components are as follows:

1. Encourage patients to participate in effective community programs;
2. Form partnerships with community organizations to develop and support interventions that fill gaps in needed services; and
3. Advocate for policies to improve patient care

B. Health System (Organization of Healthcare) - the primary goal is to create a culture, organization and mechanisms that promote safe, high quality care. Its components are as follows:

1. Visibly support improvement at all levels of the organization, beginning with the senior leader;
2. Promote effective improvement strategies aimed at comprehensive system change;
3. Encourage open and systematic handling of errors and quality problems to improve care;
4. Provide incentives based on quality of care; and
5. Develop agreements that facilitate care coordination within and across organizations.

C. Self-management support – its primary goal is to empower and prepare patients to manage their health and health care. Its components are as follows:

1. Emphasize the patient's central role in managing their health
2. Use effective self-management support strategies that include assessment, goal-setting, action planning, problem solving, and follow-up; and
3. Organize internal and community resources to provide on-going self-management support to patients.

D. Delivery System Design - the primary goal of the delivery system design is to assure the delivery of effective, efficient clinical care and self-management support. Its components are as follows:

1. Define roles and distribute tasks among team members;
2. Use planned interactions to support evidenced-based care;
3. Provide clinical case management services for complex patients
4. Ensure regular follow-up by care team; and
5. Give care the patients understand and that fits with their cultural background.

E. Decision Support - the primary goal is to promote clinical care that is consistent with scientific evidence and patient preferences. Its components are as follows:

1. Embed evidence-based guidelines into daily clinical practice;
2. Share evidenced-based guidelines and information with patients to encourage their participation;
3. Use proven provider education methods; and
4. Integrate specialist expertise and primary care.

F. The last element is clinical information systems, the primary goal is to organize patient and population data to facilitate efficient and effective care. Its components are as follows:

1. Provide timely reminders;
2. Identify relevant subpopulations for proactive prevention;
3. Facilitate individual patient care planning;
4. Share information with patients and providers to coordinate care; and

5. Monitor performance of practice team and care system (Wagner, 2005).

Because the chronic care model is so broad, many organizations and agencies tailor it to their respective needs. It is also important to note that some organizations only implement certain elements or certain components of certain elements when they are looking to improve quality of life for patients or consumers. This was illustrated in many of the studies that Bodenheimer and colleagues reviewed regarding the chronic care model and diabetes care programs (HRSA, 2006). Based upon the current review of literature, this study's framework was taken from the context of one element -- the delivery system design. According to HRSA, the overall goal of delivery system design "should ensure delivery of effective and efficient clinical care and self-management support. The system should promote definitions for roles among the clinical care team, a structure for communication and service delivery between the team members and clients, and regular follow-up" (HRSA, 2006).

The delivery systems design was chosen because the very essence of this research examines the effectiveness of service delivery within the HIV/AIDS arena from the perspective of the consumer. In examining possible barriers to services and types of providers best suited for the respective services, the first steps are being taken to ensure the delivery of effective services.

# CHAPTER III

# METHODOLOGY

Chapter III explains the methods and procedures that were used to conduct the study. The following will be discussed: the research design, description of site, sample and population, instrumentation, treatment of data, and limitations of the study.

## Research Design

Kennesaw State University was commissioned by the Department of Human Resources (DHR) to conduct a statewide community services assessment (CSA) of HIV-infected consumers within the state of Georgia for 2004-2005. With that responsibility, KSU's KAREnet team (Timothy Akers, Annette Bairan, Barbara Blake, Richard Sowell, & Gloria Taylor) decided to utilize several methods to collect data and information. Two of the methods included conducting focus groups and the administration of consumer surveys (Akers, et al., 2005).

The focus groups were designed to capture the consumers' opinions about services that were being provided throughout the state of Georgia. Eleven focus groups were conducted. Participants were primarily consumers who received services from public health agencies, AIDS service organizations and community based organizations. Participants were chosen through convenience sampling. Facilitators visited specific

sites and asked staff from the respective agency to advertise the focus group (Akers, et al, 2005).

In order to measure for validity, tape recorders and a person taking notes was present at each focus group session. Each focus group was transcribed by a KAREnet team member. After transcription, two different KSU staff members listened to each tape for validation and identification of common themes (content analysis). This information was used as supportive data (Akers, et al, 2005).

The method for acquiring information on the consumer survey was the use of the convenience sampling method. KAREnet team members at KSU contacted forty-four key informant organizations whose target population was HIV-infected. The aforementioned key informants had participated in another stage of the CSA. These key informants agreed to recruit HIV-infected consumers to complete the survey. Some key informant requested a specific number of surveys, others did not. The KAREnet team sent the respective number of consumer surveys and a stamped return envelope via mail to the key informant organization. Additionally, KAREnet provided written instruction for the respondents to place the completed survey in the return envelope before returning it to the provider. This process provided some control to insure confidentiality (Akers, et al, 2005).

The questionnaire was designed to analyze this research and was extrapolated from the aforementioned survey. There were some changes made to the demographic variables: transgender was placed into one category, as opposed to separating the two categories of transgender (male-to-female, female-to-male). Initially the actual age of an individual was documented. However, for purposes of this study, age was placed in

categories. Another major change pertains to the years diagnosed. On the initial survey, the year and month diagnosed were asked of the respondent. For the purposes of this study, only the year was used and the years were placed in categories as well. It is also important to note that this information was captured in 2004 and the years diagnosed were counted from that time period (Akers, et al., 2005).

The other changes that were categorized differently than the original survey were income, employment, and type of provider. While all of these variables were initially categorized, the researcher broadened the income range in each category and minimized the categories of employment and type of provider.

The last adjustment that was implemented was utilizing the term risk reduction, as opposed to changing risky sexual behavior. The adjustment was implemented because risk reduction is the social work term most often used when discussing safer sex options. Risk reduction is minimizing harmful behaviors to live a better quality of life.

Epidemiological data, which is a type of archival data, was utilized as the basis for this research. Because this research was examined from a secondary data perspective, the data had already been entered into the system; therefore, the researcher had to recode (in SPSS) some of the variables to implement variations of the aforementioned demographic questions. After recoding the respective variables, two frequency distributions were run. One frequency distribution was from the original data set and the other from the data set that was recoded. The two distributions were compared to ensure the new data was transferred correctly. After proofing the data set, the researcher began to design the current study.

The current study was designed to explore perceived effectiveness of HIV services provided to consumers who are HIV-infected within the state of Georgia. There was one dependent variable (perceived effectiveness of services) with five services that were analyzed (individual level intervention, group level intervention, street and community outreach, community level intervention, and prevention case management). There were four independent variables: demographic variables, barriers to services, years diagnosed, and type of provider. Demographic variables were operationalized by three categories: gender, age, and race. Barrier was operationalized by living area (urban, suburban, or rural).

To understand the diversity of the sample population, a frequency table of their demographic characteristics was employed. Cross tabulations were administered for each of the demographic variables (gender, age, and race) that were operationalized in the dependent variable. It is important to note that the Latino population was categorized in the ethnic origin population. As a result of the categorization and limited response, the researcher did not recode to include ethnic origin in race. Each demographic variable was cross tabulated with each of the five services (independent variable). Chi square was utilized for each cross tabulation to measure whether there was a statistically significant relationship; between the respective independent and dependent variables. Phi ($\Phi$) was also employed to measure the relationship between the two variables.

Initially there were two barriers to services, which would have been operationalized by living area and injection drug use. However, the response rate was disproportionate as can be seen on the demographic profile; therefore, it was omitted as an option. Living area was the only variable operationalized as a barrier in this study.

Because this independent variable had three categories, a one-way analysis of variance (ANOVA), which is an inferential statistic, was utilized to measure effectiveness between and within groups. Tukey's HSD post-hoc was used to further analyze the data. This test is especially insightful if there is a statistically significant relationship; because, it shows the specific variables that have a significant mean difference. An ANOVA was administered across all five services and living area.

An ANOVA was also used to measure the mean differences between age categories. Again, Tukey's HSD post-hoc was also used to identify any statistical significance between mean differences. An ANOVA was employed between age category and all five services that were being analyzed.

A frequency distribution was used to examine the type of provider that consumers chose most often to deliver various services. Frequency distributions were used to examine the type of provider by all five services.

## Description of Site

There were eleven focus groups. The sites were community based organizations, AIDS Service Organizations (ASOs), and health departments. The sites were located throughout the state of Georgia: Savannah (My Brothaz Home, Inc.), Macon Central City AIDS Diversity Center), Albany (Dougherty County Health Department), Atlanta (AID Atlanta, AIDS Survival Project, and Atlanta Harm Reduction), Lawrenceville (AID Gwinnett), Jonesboro (Clayton County Health Department), Tifton (Adult Health Promotion Clinic), Decatur (Our Common Welfare), Columbus (Muscogee County Health Department), and Augusta (Richmond County Health Department). The various

sites were selected to generate a broader sample population, which yields to a better understanding of an effectiveness of services.

As mentioned earlier, there were several sites used to administer the consumer surveys. These sites were inclusive of health departments throughout the state of Georgia, AIDS service organizations, and community-based organizations.

## Sample and Population

The focus group consisted of 104 participants—all of whom reported that they were HIV-infected and receiving services provided specifically to HIV-infected individuals. The population consisted of 28 heterosexuals, 31 males sleeping with males (MSM), 12 active substance abusers, and 33 substance abusers in treatment.

Sixty-nine percent of the sample population was male, 30% female, and 1% transgender. The average age of the sample population was 42 years of age; racial and ethnic breakdown of the sample population was as follows: African-American/Black (78%), Asian-American/Asian (1%); European-American/Caucasian (16%); Hispanic/Latino (1%), Native-American/Indian (1%), and Multi-racial (3%).

For the consumer surveys, there were 232 respondents. The demographic profile for the consumer survey respondents was as follows: 26.6% female, 69.9% male, and 3.5% transgender. The mean age of the sample population was 40.48 years. The racial/ethnic breakdown was as follows: African-American/Black (69.3%), Asian-American/Asian (1.3%), European-American/Caucasian (22.8%), Native-American/American-Indian/Alaskan Native (2.2%), and Multi-racial (4.4%).

## Instrumentation

This research employed two instruments: the content analysis extracted from the focus groups in selected counties within the state of Georgia and an extrapolation of the 2004 HIV/AIDS Consumer Survey. Information gathered from the focus was recurring themes from various consumers about respective services and perceptions about how an HIV-infected consumer is treated. This information was used as supporting data. The consumer survey was the primary instrument utilized for this data collecting.

The 2004 HIV/AIDS Consumer Survey developed by Kennesaw AIDS Research and Evaluation Network (KAREnet) with input from DHR and the Community Planning Group (CPG). The consumer survey consisted of five sections: Demographic Information, HIV Prevention and Care Services, Characteristics of HIV/AIDS Prevention, Services Available, Used, and/or Needed, Quality of HIV/AIDS Prevention (and Care) Used, and a Strategies for Interventions Section.

Section I, the Demographic Section consisted of 30 questions; Section II, 28 questions; Section III, 29 questions; Section IV, 29 questions, and Section V consisted of 9 interventions with 8 questions for each intervention. Questions 1-3 in Section V are fill in the blank, questions 4-7 consists of marking all choices that apply, and question 8 which asks about the effectiveness of a service presents with a Likert scale to complete for a response.

Utilization of focus groups is the second instrumentation that was used. The focus groups explored seven core areas: psychosocial issues of the HIV-infected, HIV-related medical/social services, barriers to services, CDC Prevention with Positives Initiative, disclosure, partner counseling, and referral services, and adherence.

The instrument that was used for this study has four sections. Section I is the demographic section which consists of 11 questions, Section II asks questions about perceived effectiveness of services for changing risky sexual behavior, Section III has asks questions regarding to the type of provider, and Section IV refers to utilization of services.

## Treatment of Data

Both descriptive and inferential statistics were employed to analyze the data. Descriptive statistics administered were frequency distribution and cross tabulation. Frequency distribution was utilized for two reasons: to give the reader insight on the demographic profile of responses and to allow the reader to measure the number of responses for a given question.

The second descriptive statistic utilized was cross tabulations. Cross tabulations were conducted for two hypotheses: the relationship between perceived effectiveness of HIV/AIDS services in the state of Georgia and demographic variables; and the relationship between perceived effectiveness of HIV/AIDS services in the state of Georgia and type of provider. There were two statistical tests that were used to measure different relationships with cross tabulations: chi square and Phi (Φ).

Chi square was used to test whether there was statistical significance at the .05 level of probability among variables in the study.

The second statistic that was employed was Phi (Φ). Phi (Φ) is a measurement of association that is used to demonstrate the relationship between two or more variables. Values for phi (Ø) are as follows:

| | |
|---|---|
| .00 to .24 | "no relationship" |
| .25 to .49 | "weak relationship" |
| .50 to .74 | "moderate relationship" |
| .75 to 1.00 | "strong relationship" |

ANOVA was the only inferential statistic that was administered. It was utilized to explore the statistical relationship between the dependent variable (effectiveness) and the independent variables that have more than two categories. This test allowed the analysis of variation between and within each group by measuring the mean difference. In other words, the ANOVA allows for multiple comparisons. The mean difference of an ANOVA is statistically significant at the .05 level. In addition, the results from the Tukey's HSD post-hoc comparison were examined. Tukey's HSD post-hoc allows the researcher to examine which variables or combination of variables have a significant mean difference. Although chi square and Tukey's HSD post hoc placed the statistically significant level at .05, it is important to note that the researcher also observed results at both the .01 and .10 statistically significant level to reduce rates of a Type I error.

## Limitations of the Study

There were five primary limitations to the study. The first limitation involves the sites of the study. Although the sites used in this study were throughout the state of Georgia, the sample population was recruited primarily from CBOs and health departments. Therefore, individuals who receive services primarily from private doctors may have been underrepresented. This allows for a limited scope of the HIV-infected consumer.

The second limitation that was present in this study was the lack of participation from both the transgender and female populations. This limitation may provide lack of insight for needed services to two high risk populations.

The third limitation was the lack of equal participation among the different races. Because many of the sites that participated in this study were located in areas that had a predominant African-American population, it could be surmised that the majority of participants would be African-American. As result, the HIV community may limit itself or be unaware of cultural sensitivity that may be needed to keep a person in treatment.

The fourth limitation of the study is sensitive subject matter. Because focus groups are face-to-face and among peers, participants may have felt obligated to provide responses that were "socially acceptable." This may result in skewed data.

The final limitation is the use of secondary data. Although the original survey was designed with a tremendous amount of professionalism, accuracy, and efficiency, it was designed for another purpose and primarily from a epidemiological perspective. As a result, information that may be more insightful for social work may be limited.

# CHAPTER IV

## PRESENTATION OF FINDINGS

In order to better understand the perceived effectiveness of HIV/AIDS related services among HIV-infected consumers within the State of Georgia, the results of this research is requisite. The total sample population was 232. The results cover various areas of the survey.

### Demographic Data

Table 1

Demographic Profile of Study Respondents

| Variable | Frequency | Percent |
|---|---|---|
| Gender | | |
| Female | 61 | 26.6 |
| Male | 160 | 69.9 |
| Transgender | 8 | 3.5 |
| Age Group | | |
| Under 18 | 1 | .5 |
| 18-24 | 10 | 4.5 |
| 25-34 | 43 | 19.5 |
| 35-44 | 89 | 40.3 |
| 45-54 | 64 | 29.3 |
| 55-64 | 12 | 5.4 |
| Over 64 | 2 | .9 |

Table 1 (continued)

Demographic Profile of Study Respondents

| Variable | Frequency | Percent |
|---|---|---|
| Ethnicity/Race | | |
| African-American | 158 | 69.3 |
| Asian American | 3 | 1.3 |
| European American | 52 | 22.8 |
| Native American | 5 | 2.2 |
| Multi-racial | 10 | 4.4 |
| Latino/Hispanic | | |
| No | 199 | 96.6 |
| Yes | 7 | 3.4 |
| Sexual Orientation | | |
| Heterosexual | 105 | 47.5 |
| Bisexual | 13 | 5.9 |
| Not sure/ Exploring | 6 | 2.7 |
| Gay Male | 88 | 39.8 |
| Lesbian | 2 | .9 |
| Transgender | 7 | 3.2 |
| Household Income | | |
| $5,000 or less | 70 | 33.0 |
| $5,001-$15,000 | 64 | 27.6 |
| $15,001-$25,000 | 49 | 30.2 |
| $25,001-$35,000 | 7 | 3.3 |
| $35,001-$45,000 | 6 | 2.8 |
| $45,001 and Over | 16 | 7.5 |
| Living Area | | |
| Urban | 78 | 35.6 |
| Suburban | 48 | 21.9 |
| Rural | 93 | 42.5 |

Table 1 (continued)

Demographic Profile of Study Respondents

| Variable | Frequency | Percent |
|---|---|---|
| HIV Status | | |
| HIV Positive with Sym | 56 | 25.2 |
| HIV Positive w/o Sym | 107 | 48.2 |
| AIDS with Symptoms | 26 | 11.7 |
| AIDS without Symptoms | 33 | 14.9 |
| Years Diagnosed | | |
| Less than One Year | 10 | 4.7 |
| 1-5 Years | 68 | 32.2 |
| 6-10 Years | 62 | 29.4 |
| 11-15 Years | 47 | 22.3 |
| 16-20 Years | 20 | 9.5 |
| Over 20 Years | 4 | 1.9 |
| Injected Drugs | | |
| No | 222 | 98.2 |
| Yes | 4 | 1.8 |

As reported in Table 1, the total sample population consisted of 160 (69.0%) males, 61 (26.3%) females, and 8 (4%) transgender. There was one respondent who was reported less than 18 years of age and two respondents who reported that they were ≥ 64 years of age. The remainder of the participant's ages ranged from 18 to 64 years. The largest age category was 35-44 years. The racial composition was: African-American (69.3%, N=158), European-American (22.8%, N=52), Asian-American/Asian (1.3%, N=3), Native-American/American-Indian/Alaskan Native (2.2%, N=5), and Multiracial (4.4%, N=10). The Latino/Hispanic population was placed in a separate category: ethnic

origin. There were seven consumers who reported that they were of Latino/Hispanic origin.

There were 70 consumers (33.0%) who reported that their annual household income was less than $5,000; $5,001-$15,000 (23.1%, N=64); $15,001-$25,000 (23.1%, N=49); $25,001-$35,000 (3.3%, N=7); $35,001-$45,000 (2.8%, N=6); and 16 consumers who reported $45,001 or more. Employment for consumers ranged primarily from full-time to unemployed. Consumers employed full-time (19.5%, N=44), part-time (11.5%, N=26), and unemployed (64.6%, N=146), and there were 10 consumers who reported either seasonal or temporary employment. Consumers reported living in an urban area (35.6%, N=78), suburban area (21.9%, N=48), and the rural area (42.5%, N=93).

Sexual orientation of the sample population was heterosexual (47.5%, N=105), bisexual (5.9%, N=13), not sure/exploring (2.7%, N=6), gay male (39.8%, N=88), lesbian (.9%, N=2), and transgender (3.2%, N=7). The current HIV status of the consumers was: HIV positive with symptoms (25.2%, N=56), HIV positive without symptoms (48.2%, N=107), AIDS diagnosis with symptoms (11.7%, N=26), and AIDS diagnosis without symptoms (14.9%, N=33). The consumers also varied in the amount of years that each had been diagnosed HIV positive: less than one year (4.7%, N=10), 1-5 years (32.2%, N=68), 6-10 years (29.4%, N=62), 11-15years (22.3%, N=47), 16-20 years (9.5%, N=20), and there were four consumers who responded that they had been diagnosed with HIV for more than 20 years.

Also, there were also consumers (98.2%, N=222) who denied injection drug use within the last 12 months. Four consumers (1.8%) reported injection drug use within the last 12 months.

## Research Questions and Hypotheses

There were four research questions and four null hypotheses in this study. This section provides an analysis of the research questions and presents the results of the null hypotheses.

Research Question 1: Is there a relationship between demographic variables and the perceived effectiveness of HIV/AIDS related services for risk reduction by the HIV-infected consumer within the state of Georgia?

Hypothesis 1: There is no statistically significant relationship between demographic variables and the perceived effectiveness of HIV/AIDS related services for risk reduction by the HIV-infected consumer within the state of Georgia.

The definition of effectiveness was not operationalized by other variables within the survey because it was a direct question asked on the consumer survey for each service; however, due to the magnitude of demographic variables only three were designated to define demographic variables: gender, age, and race. It is also important to note that the term "some degree of effectiveness" is the sum of percentages for

somewhat effective, effective, and very effective. The response, "Don't Know" was not included on any of the summations.

Table 2 is a cross tabulation which indicates HIV-infected consumers' (by gender) responses and perceptions about effectiveness of individual level interventions for changing risky sexual behavior.

Table 2

Gender by perceived effectiveness of individual level intervention

| | Gender | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Female | | Male | | Transgender | | Total | |
| | # | % | # | % | # | % | # | % |
| Individual Level | | | | | | | | |
| Don't Know | 2 | 1.5 | 7 | 5.1 | 0 | 0 | 9 | 6.6 |
| Not Effective | 1 | 0.7 | 1 | 0.7 | 0 | 0 | 2 | 1.5 |
| Somewhat Effective | 5 | 3.7 | 27 | 19.9 | 4 | 2.9 | 36 | 26.5 |
| Effective | 11 | 8.1 | 28 | 20.6 | 0 | 0 | 39 | 28.7 |
| Very Effective | 12 | 8.8 | 35 | 25.7 | 3 | 2.2 | 50 | 36.8 |
| Total | 31 | 22.8 | 98 | 72.1 | 7 | 5.1 | 136 | 100.0 |

$\Phi = .240$ $df = 8$ $p = .452$

* Significant at .01

** Significant at .05

*** Significant at .10

As indicated in Table 2, two (1.5%) females reported that they did not know whether the individual level interventions were effective, one (0.7%) female reported that individual level interventions were not effective methods for changing risky sexual behavior, five (3.7%) females reported that individual level interventions were somewhat effective, eleven (8.1%) females reported individual level interventions to be effective and twelve (8.8%) reported that individual level interventions were very effective.

Seven (5.1%) male consumers reported that they did not know whether individual level interventions were effective in changing risky sexual behavior, one (0.7%) male consumer reported that individual level interventions were not effective, twenty-seven (19.9%) male consumers reported that individual level interventions were somewhat effective, twenty-eight (20.6%) consumers reported that the individual level interventions were effective, and thirty-five (25.7%) male consumers reported that individual level interventions were very effective.

There were seven transgender respondents, four (2.9%) reported that individual level interventions were somewhat effective and three (2.2%) reported that individual level interventions were very effective.

Collectively, all genders appeared to agree that there was some degree of effectiveness for individual level interventions to change risky sexual behavior; there was 26.5% of the total population who responded that individual level interventions were somewhat effective, 28.7% who responded that individual level interventions were effective, and 36.8% who responded that individual level interventions were very

effective. A total of 1.5 % respondents reported that individual level interventions were ineffective.

As illustrated in Table 2, the statistical measurement phi ($\Phi$) was administered to test for the strength of association between gender and effectiveness of individual level intervention. There was no relationship ($\Phi = .240$) between the two variables. The chi square statistical test for significance also yielded that there was no statistically significant relationship ($p = .452$) between the two variables at .05 level of probability. Therefore, the researcher failed to reject the null hypothesis.

Table 3 is a cross tabulation which indicates HIV-infected consumers' (by gender) responses and perceptions about effectiveness of group level interventions for changing risky sexual behavior.

Table 3

Gender by perceived effectiveness of group level intervention

| | Gender | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Female | | Male | | Transgender | | Total | |
| | # | % | # | % | # | % | # | % |
| Group Level | | | | | | | | |
| Don't Know | 3 | 2.6 | 7 | 6.0 | 0 | 0 | 10 | 8.5 |
| Not Effective | 0 | 0 | 2 | 1.7 | 0 | 0 | 2 | 1.7 |
| Somewhat Effective | 2 | 1.7 | 20 | 17.1 | 2 | 1.7 | 24 | 20.5 |
| Effective | 9 | 7.7 | 31 | 26.5 | 2 | 1.7 | 42 | 35.9 |
| Very Effective | 13 | 11.1 | 24 | 20.5 | 2 | 1.7 | 39 | 33.3 |
| Total | 27 | 23.1 | 84 | 71.8 | 6 | 5.1 | 117 | 100.0 |

$\Phi = .247$ $df = 8$ $p = .523$

* Significant at .01

** Significant at .05

*** Significant at .10

Collectively, all genders appeared to agree that there was some degree of effectiveness for group level interventions to change risky sexual behavior; there was 20.5% of the total population who responded that group level interventions were somewhat effective, 35.9% who responded that group level interventions were effective, and 33.3% who responded that group level interventions were very effective. A total of 1.7 % respondents reported that group level interventions were ineffective.

As indicated in Table 3, three (2.6%) females reported that they did not know whether group level interventions were effective, none (0.0%) of the females reported that group level interventions were not effective methods for changing risky sexual behavior, two (1.7%) females reported that group level interventions were somewhat effective, nine (7.7%) females reported group level interventions to be effective, and thirteen (11.1%) females reported that group level interventions were very effective.

Seven (5.1%) male consumers reported that they did not know whether group level interventions were effective in changing risky sexual behavior, two (1.7%) male consumers reported that group level interventions were not effective, twenty (17.1%) male consumers reported that group level interventions were somewhat effective, thirty-one (26.5%) male consumers reported that the group level interventions were effective, and twenty-four (20.5%) male consumers reported that group level interventions were very effective.

There were six transgender consumers, two (1.7%) consumers reported that group level interventions were somewhat effective, two (1.7%) consumers reported group level interventions were effective, and two (1.7%) consumers reported that group level interventions were very effective.

As illustrated in Table 3, the statistical measurement phi ($\Phi$) was administered to test for the strength of association between gender and perceived effectiveness of group level intervention. As indicated, there was no relationship ($\Phi = .247$) between the two variables. The chi square statistical test for significance also yielded that there was no statistically significant relationship ($p = .523$) between the two variables at .05 level of probability. Therefore, the researcher failed to reject the null hypothesis.

Table 4 is a cross tabulation which indicates HIV-infected consumers' (by gender) responses and perceptions about effectiveness of street and community outreach for changing risky sexual behavior.

Table 4

Gender by perceived effectiveness of street and community outreach

| | Gender | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Female | | Male | | Transgender | | Total | |
| | # | % | # | % | # | % | # | % |
| Street and Community Outreach | | | | | | | | |
| Don't Know | 2 | 2.2 | 10 | 10.9 | 1 | 1.1 | 13 | 14.1 |
| Not Effective | 0 | 0.0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Somewhat Effective | 4 | 4.3 | 15 | 16.3 | 3 | 3.3 | 22 | 23.9 |
| Effective | 7 | 7.6 | 18 | 19.6 | 1 | 1.1 | 26 | 28.3 |
| Very Effective | 7 | 7.6 | 24 | 26.1 | 0 | 0 | 31 | 33.7 |
| Total | 20 | 21.7 | 67 | 72.8 | 5 | 5.4 | 92 | 100.0 |

$\Phi = .246$ $df = 6$ $p = .472$

* Significant at .01

** Significant at .05

*** Significant at .10

As indicated in Table 3, two (2.2%) females reported that they did not know whether street and community outreach was effective, none (0.0%) of the females reported that street and community outreach was not effective methods for changing risky sexual behavior, four (4.3%) females reported that street and community outreach was somewhat effective, seven (7.6%) females reported street and community outreach was effective, and seven (7.7%) females reported that street and community outreach was very effective.

Ten (10.9%) male consumers reported that they did not know whether street and community outreach was effective in changing risky sexual behavior, none (0.0%) of the male consumers reported that street and community outreach was not effective, fifteen (16.3%) male consumers reported that group level interventions were somewhat effective, eighteen (19.6%) male consumers reported that street and community outreach was effective, and twenty-four (26.1%) male consumers reported that street and community outreach was very effective.

There were five transgender respondents, two (1.7%) consumers reported that did not know whether street and community outreach was effective, none (0.0%) of the consumers reported on whether street and community outreach was not effective, three (3.3%) consumers reported that street and community outreach was somewhat effective, one (1.1%) consumer reported that street and community outreach was effective, and none (0.0%) of the consumers reported on the whether street and community outreach was very effective.

Collectively, all genders appeared to agree that there was some degree of effectiveness for street and community outreach to change risky sexual behavior; there

was 23.9% of the total population who responded that street and community outreach was somewhat effective, 28.3% who responded that street and community outreach was effective, and 33.7% who responded that street and community outreach was very effective. A total of 0.0 % respondents reported that street and community outreach was ineffective.

As illustrated in Table 4, the statistical measurement phi ($\Phi$) was administered to test for the strength of association between gender and perceived effectiveness of street and community outreach. As indicated, there was no relationship ($\Phi = .246$) between the two variables. The chi square statistical test for significance also yielded that there was no statistically significant relationship ($p = .472$) between the two variables at .05 level of probability. Therefore, the researcher failed to reject the null hypothesis.

Table 5 is a cross tabulation which indicates HIV-infected consumers' (by gender) responses and perceptions about effectiveness of community level interventions for changing risky sexual behavior.

Table 5

Gender by perceived effectiveness of community level intervention

| | Gender | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Female | | Male | | Transgender | | Total | |
| | # | % | # | % | # | % | # | % |
| Community Level | | | | | | | | |
| Don't Know | 2 | 2.2 | 10 | 11.2 | 1 | 1.1 | 13 | 14.6 |
| Not Effective | 0 | 0 | 1 | 1.1 | 0 | 0 | 1 | 1.1 |
| Somewhat Effective | 5 | 5.6 | 10 | 11.2 | 2 | 2.2 | 17 | 19.1 |
| Effective | 6 | 6.7 | 27 | 30.3 | 0 | 0 | 33 | 37.1 |
| Very Effective | 6 | 6.1 | 18 | 20.2 | 1 | 1.1 | 25 | 28.1 |
| Total | 19 | 21.3 | 66 | 74.2 | 4 | 4.5 | 89 | 100.0 |

$\Phi = .258$ $df = 8$ $p = .654$

* Significant at .01

** Significant at .05

*** Significant at .10

As indicated in Table 5, two (2.2%) female consumers reported that they did not know whether community level interventions were effective, none (0.0%) of the females reported that community level interventions were not effective methods for changing risky sexual behavior, five (5.6%) female consumers reported that community level interventions were somewhat effective, six (6.7%) female consumers reported

community level interventions to be effective, and six (6.7%) female consumers reported that community level interventions were very effective.

Ten (11.2%) male consumers reported that they did not know whether community level interventions were effective in changing risky sexual behavior, one male (1.1%) consumer reported that community level interventions were not effective, ten (11.2%) male consumers reported that community level interventions were somewhat effective, twenty-seven (30.3%) male consumers reported that community level interventions were effective, and eighteen (20.2%) male consumers reported that community level interventions were very effective.

There were four transgender respondents, one (1.1%) consumer reported that they did not know whether community level interventions were effective, none (0.0%) of the consumers reported community level intervention as not being effective, two (2.2%) consumers reported that community level interventions were somewhat effective, none (0.0%) of the consumers reported community level interventions were effective, and one (1.1%) consumer reported that community level interventions were very effective.

Collectively, all genders appeared to agree that there was some degree of effectiveness for community level interventions to change risky sexual behavior; there was 19.1% of the total population who responded that community level intervention was somewhat effective, 37.1% who responded that community level interventions were effective, and 28.1% who responded that community level interventions were very effective. A total of 1.1 % respondents reported that community level interventions were ineffective.

As illustrated in Table 5, the statistical measurement phi ($\Phi$) was administered to test for the strength of association between gender and perceived effectiveness of community level intervention. As indicated, there was a weak relationship ($\Phi = .258$) between the two variables. The chi square statistical test for significance also yielded that there was no statistically significant relationship ($p = .654$) between the two variables at .05 level of probability. Therefore, the researcher failed to reject the null hypothesis.

Table 6 is a cross tabulation which indicates HIV-infected consumers' (by gender) responses and perceptions about effectiveness of prevention case management for changing risky sexual behavior.

Table 6

Gender by perceived effectiveness of prevention case management ***

| | Gender | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Female | | Male | | Transgender | | Total | |
| | # | % | # | % | # | % | # | % |
| Prevention Case Management | | | | | | | | |
| Don't Know | 0 | 0 | 7 | 8.2 | 1 | 1.2 | 8 | 9.6 |
| Not Effective | 2 | 2.4 | 0 | 0 | 0 | 0 | 2 | 2.4 |
| Somewhat Effective | 3 | 3.6 | 5 | 6.0 | 2 | 2.4 | 10 | 12.0 |
| Effective | 9 | 10.8 | 26 | 31.3 | 2 | 2.4 | 37 | 44.6 |
| Very Effective | 7 | 8.4 | 19 | 22.9 | 0 | 0 | 26 | 31.3 |
| Total | 21 | 25.3 | 57 | 68.7 | 5 | 6.0 | 83 | 100.0 |

$\Phi = .417$ df = 8 $p = .071$

* Significant at .01

** Significant at .05

*** Significant at .10

As indicated in Table 6, none (0.0%) of the female consumers reported not knowing whether prevention case management was effective, two (2.4%) female consumers reported that prevention case management was not an effective method for changing risky sexual behavior, three (3.6%) female consumers reported that prevention case management was somewhat effective, nine (10.8%) female consumers reported

prevention case management to be effective, and seven (8.4%) female consumers reported that prevention case management was very effective.

Seven (8.4%) male consumers reported that they did not know whether prevention case management was effective in changing risky sexual behavior, none (0.0%) of the male consumers reported that prevention case management was not effective, five (6.0%) male consumers reported that prevention case management was somewhat effective, twenty-six (31.3%) male consumers reported that prevention case management was effective, and nineteen (22.9%) male consumers (22.9%) reported that prevention case management was very effective.

There were five transgender respondents; one (1.2%) consumer reported that they did not know whether prevention case management was effective, none (0.0%) of the consumers reported prevention case management as not being effective, two (2.4%) consumers reported that prevention case management was somewhat effective, two (2.4%) consumers reported prevention case management was effective, and none (0.0%) consumers reported that prevention case management was very effective.

Collectively, all genders appeared to agree that there was some degree of effectiveness for prevention case management to change risky sexual behavior; there was 12.0% of the total population who responded that prevention case management was somewhat effective, 44.6% who responded that prevention case management was effective, and 31.3% who responded that prevention case management was very effective. A total of 2.4 % respondents reported that prevention case management was ineffective.

As illustrated in Table 6, the statistical measurement phi ($\Phi$) was administered to test for the strength of association between gender and perceived effectiveness of prevention case management. As indicated, there was a weak relationship ($\Phi = .417$) between the two variables. The chi square statistical test for significance also yielded that there was a statistically significant relationship ($p = .071$) between the two variables at .10 level of probability. Therefore, the researcher rejected the null hypothesis.

In summation, all three genders responded to the five services reporting that there was some level of effectiveness; however, there were no strong relationships and one statistically significant relationship found among the variables. The significant relationship was between gender and perceived effectiveness of prevention case management.

Table 7 begins a new demographic variable, which is age. Table 7 is a cross tabulation which indicates HIV-infected consumers' (by age) responses and perceptions about effectiveness of individual level interventions for changing risky sexual behavior.

Table 7

Age category by perceived effectiveness of individual level intervention

| | Age | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 18-24 | | 25-34 | | 35-44 | | 45-54 | | 55-64 | | Over 64 | | Total | |
| | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| Individual Level | | | | | | | | | | | | | | |
| Don't Know | 0 | 0 | 0 | 0 | 6 | 4.5 | 3 | 2.3 | 0 | 0 | 0 | 0 | 9 | 6.8 |
| Not Effective | 0 | 0 | 2 | 1.5 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1.5 |
| Somewhat Effective | 0 | 0 | 10 | 7.5 | 17 | 12.8 | 7 | 5.3 | 1 | .8 | 0 | 0 | 35 | 26.3 |
| Effective | 2 | 1.5 | 9 | 6.8 | 9 | 6.8 | 14 | 10.5 | 2 | 1.5 | 1 | .8 | 37 | 27.8 |
| Very Effective | 3 | 2.3 | 8 | 6.0 | 24 | 18.0 | 10 | 7.5 | 4 | 3.0 | 1 | .8 | 50 | 37.6 |
| Total | 5 | 3.8 | 29 | 21.8 | 56 | 42.1 | 34 | 25.6 | 7 | 5.3 | 2 | 1.5 | 133 | 100 |

$\Phi = .427$ df = 20 $p = .231$

* Significant at .01

** Significant at .05

*** Significant at .10

As indicated in Table 7, there were none (0.0%) of the consumers from ages 18 to 24 years who reported that they did not know whether the individual level interventions were effective, none (0.0%) of the consumers from ages 18 to 24 years reported that individual level interventions were not effective methods for changing risky sexual behavior, none (0.0%) of the consumers from ages 18 to 24 years reported that

individual level interventions were somewhat effective, two consumers (1.5%) from ages 18 to 24 year reported individual level interventions to be effective and three (2.3%) consumers from ages 18 to 24 reported that individual level interventions were very effective.

None (0.0%) of the consumers from ages 25 to 34 years reported that they did not know whether individual level interventions were effective in changing risky sexual behavior, two (1.5%) consumers reported that individual level interventions were not effective, ten (17.5%) consumers between the ages 25 to 34 years reported that individual level interventions were somewhat effective, nine (6.8%) consumers between the ages of 25 and 34 reported that the individual level interventions were effective, and eight (6.0%) consumers reported that individual level interventions were very effective.

There were fifty-six (42.1%) consumers between the ages of 35 and 44 years who respondents. Six (4.5%) consumers reported that they did not know if individual level intervention was effective, none (0.0%) of the consumers reported that the individual level intervention was not effective, seventeen (12.8%) consumers reported that individual level intervention is somewhat effective, nine (6.8%) consumers reported that individual level intervention was effective, and twenty-four (18.0%) consumers reported that individual level intervention was very effective.

There were thirty-four (25.6%) consumers between the ages of 45 and 54 years. Three (2.3%) consumers reported that they did not know whether individual level intervention was effective, none (0.0%) of the consumers reported that individual level intervention was not effective, seven (5.3%) consumers reported that individual level interventions was somewhat effective, fourteen (10.5%) consumers reported that

individual level intervention was effective, and ten (7.5%) consumers reported that individual level intervention was very effective.

Seven (5.3%) consumers between the ages of 55 and 64 years responded to the question regarding perceived effectiveness and individual level intervention. None (0.0%) of the consumers reported that they did not know whether individual level intervention was effective, none (0.0%) of the consumers reported that individual level intervention was not effective, one consumer reported that individual level intervention was somewhat effective, two (5.4%) consumers reported that individual level intervention was effective, and four (3.0%) reported that individual level intervention was very effective.

Two (1.5%) consumers over the age of 64 years responded to the question regarding effectiveness of individual level intervention. One (.8%) consumer reported that individual level intervention is effective and one (.8%) consumer reported that individual level intervention is very effective.

Collectively, all age categories appeared to agree that there was some degree of effectiveness for individual level intervention to change risky sexual behavior; there was 26.3% of the total population who responded that individual level interventions were somewhat effective, 27.8% who responded that individual level interventions were effective, and 37.6% who responded that individual level interventions very effective. A total of 1.5 % of respondents reported that individual level interventions were ineffective.

As illustrated in Table 7, the statistical measurement phi ($\Phi$) was administered to test for the strength of association between age and perceived effectiveness of individual level intervention. As indicated, there was a weak relationship ($\Phi = .427$) between the

two variables. The chi square statistical test for significance also yielded that there was no statistically significant relationship ($p = .231$) between the two variables at .05 level of probability. Therefore, the researcher failed to reject the null hypothesis.

Table 8 is a cross tabulation which indicates HIV-infected consumers' (by age) responses and perceptions about effectiveness of group level interventions for changing risky sexual behavior.

Table 8

Age category by perceived effectiveness of group level intervention

| | Age | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 18-24 | | 25-34 | | 35-44 | | 45-54 | | 55-64 | | Over 64 | | Total | |
| | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| Group Level | | | | | | | | | | | | | | |
| Don't Know | 1 | 0.9 | 1 | 0.9 | 4 | 3.5 | 3 | 2.6 | 1 | 0.9 | 0 | 0 | 10 | 8.8 |
| Not Effective | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 1.8 | 0 | 0 | 0 | 0 | 2 | 1.8 |
| Somewhat Effective | 0 | 0 | 1 | 0.9 | 13 | 11.4 | 7 | 6.1 | 1 | 0.9 | 0 | 0 | 22 | 19.3 |
| Effective | 0 | 0 | 7 | 6.1 | 16 | 14.0 | 14 | 12.3 | 2 | 1.8 | 1 | 0.9 | 40 | 35.1 |
| Very Effective | 4 | 3.5 | 6 | 5.3 | 18 | 15.8 | 8 | 7.0 | 3 | 2.6 | 1 | 0.9 | 40 | 35.1 |
| Total | 5 | 4.4 | 15 | 13.2 | 51 | 44.7 | 34 | 29.8 | 7 | 6.1 | 2 | 1.8 | 114 | 100.0 |

$\Phi = .390$ df = 20 $p = .633$

* Significant at .01

** Significant at .05

*** Significant at .10

As indicated in Table 8, there were five (4.4%) consumers between the ages 18 and 24 years. One (0.9%) consumer reported not knowing whether the group level intervention was effective, none (0.0%) of the consumers reported that group level intervention was not effective methods for changing risky sexual behavior, none (0.0%) of the consumers reported that group level intervention was somewhat effective, none (0.0%) of the consumers reported group level intervention to be effective and four (3.5%) consumers reported that group level intervention was very effective.

One (0.9%) consumer from ages 25 to 34 years reported not knowing whether group level interventions were effective in changing risky sexual behavior, none (0.0%) of the consumers reported that group level intervention was not effective, one (0.9%) consumers between the ages 25 to 34 years reported that group level intervention was somewhat effective, seven (6.1%) consumers between the ages of 25 and 34 reported that the group level intervention was effective, and six (5.3%) consumers reported that group level intervention was very effective.

There were fifty-one (44.7%) consumers between the ages of 35 and 44 years who respondents. Four (3.5%) consumers reported that they did not know if group level intervention was effective, none (0.0%) of the consumers reported that group level intervention was not effective, thirteen (59.1%) consumers reported that group level intervention is somewhat effective, sixteen (14.0%) consumers reported that group level intervention was effective, and eighteen (15.8%) consumers reported that group level intervention was very effective.

There were thirty-four (29.8%) consumers between the ages of 45 and 54 years. Three (2.6%) consumers reported that they did not know whether group level

intervention was effective, seven (6.1%) consumers reported that group level intervention was not effective, fourteen (12.3%) consumers reported that group level intervention was somewhat effective, four (4.5%) consumers reported that group level intervention was effective, and eight (7.0%) consumers reported that group level intervention was very effective.

Seven (6.1%) consumers between the ages of 55 and 64 years responded to the question regarding perceived effectiveness of group level intervention. One (0.9%) consumer reported that not knowing whether group level intervention was effective, none (0.0%) of the consumers reported that group level intervention was not effective, one (0.9%) consumer reported that group level intervention was somewhat effective, two (1.8%) consumers reported that group level intervention was effective, and four (2.6%) reported that group level intervention was very effective.

There were two (1.8%) consumers who were over 64 years of age that responded in this area. One (0.9%) consumer reported that group level intervention was effective and one (0.9%) consumer reported that group level intervention was very effective. There were none (0.0%) of the other responses reported in this section for this age group.

Collectively, all age categories appeared to agree that there was some degree of effectiveness for group level intervention to change risky sexual behavior; there was 19.3% of the total population who responded that group level intervention was somewhat effective, 35.1% who responded that group level intervention was effective, and 35.1% who responded that group level intervention was very effective. A total of 1.8 % of respondents reported that group level intervention was ineffective.

As illustrated in Table 8, the statistical measurement phi ($\Phi$) was administered to test for the strength of association between age and perceived effectiveness of group level intervention. As indicated, there was a weak relationship ($\Phi = .390$) between the two variables. The chi square statistical test for significance also yielded that there was no statistically significant relationship ($p = .633$) between the two variables at .05 level of probability. Therefore, the researcher failed to reject the null hypothesis.

Table 9 is a cross tabulation which indicates HIV-infected consumers' (by age) responses and perceptions about effectiveness of street and community outreach for changing risky sexual behavior.

Table 9

Age category by perceived effectiveness of street and community outreach

| | Age | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 18-24 | | 25-34 | | 35-44 | | 45-54 | | 55-64 | | Over 64 | | Total | |
| | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| Street and Community Outreach | | | | | | | | | | | | | | |
| Don't Know | 0 | 0 | 1 | 1.1 | 6 | 6.7 | 4 | 4.5 | 2 | 2.2 | 0 | 0 | 13 | 14.6 |
| Not Effective | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Somewhat Effective | 0 | 0 | 5 | 5.6 | 8 | 9.0 | 5 | 5.6 | 1 | 1.1 | 0 | 0 | 19 | 21.3 |
| Effective | 0 | 0 | 6 | 6.7 | 7 | 7.9 | 11 | 12.4 | 1 | 1.1 | 0 | 0 | 25 | 28.1 |
| Very Effective | 2 | 2.2 | 4 | 4.5 | 18 | 20.2 | 4 | 4.5 | 3 | 3.4 | 1 | 1.1 | 32 | 36.0 |
| Total | 2 | 2.2 | 16 | 18.0 | 39 | 43.8 | 24 | 27.0 | 7 | 7.9 | 1 | 1.1 | 89 | 100.0 |

$\Phi = .297$ df = 15 $p = .442$

* Significant at .01

** Significant at .05

*** Significant at .10

As indicated in Table 9, there were two (2.2%) consumers between the ages 18 and 24 years who responded to this question. Two (2.2%) consumers reported not knowing whether street and community outreach was effective, none (0.0%) of the consumers reported that street and community outreach was not effective methods for changing risky sexual behavior, none (0.0%) of the consumers reported that street and

community outreach was somewhat effective, none (0.0%) of the consumers reported street and community outreach to be effective and two (2.2%) consumers reported that street and community outreach was very effective.

One consumer (1.1%) consumers from ages 25 to 34 years reported not knowing whether street and community outreach was effective in changing risky sexual behavior, none (0.0%) of the consumers reported that street and community outreach was not effective, five (5.6%) consumers between the ages 25 to 34 years reported that street and community outreach was somewhat effective, six (6.7%) consumers between the ages of 25 and 34 reported that street and community outreach was effective, and two (2.2%) consumers reported that street and community outreach was very effective.

There were thirty-nine (43.8%) consumers between the ages of 35 and 44 years who respondents. Six (6.7%) consumers reported that they did not know if street and community outreach was effective, none (0.0%) of the consumers reported that street and community outreach was not effective, eight (9.0%) consumers reported that street and community outreach was somewhat effective, seven (7.9%) consumers reported that street and community outreach was effective, and eighteen (20.2%) consumers reported that street and community outreach was very effective.

There were twenty-four (27.0%) consumers between the ages of 45 and 54 years. Four (4.5%) consumers reported that they did not know whether street and community outreach was effective, none (0.0%) of the consumers reported that street and community outreach was not effective, five (5.6%) consumers reported that street and community outreach was somewhat effective, eleven (12.4%) consumers reported that street and

community outreach was effective, and four (4.5%) consumers reported that street and community outreach was very effective.

Seven (7.9%) consumers between the ages of 55 and 64 years responded to the question regarding perceived effectiveness of street and community outreach. Two (2.2%) consumer reported that not knowing whether street and community outreach was effective, none (0.0%) of the consumer reported that street and community outreach was not effective, one (1.1%) consumer reported that street and community outreach was somewhat effective, one (1.1%) consumer reported that street and community outreach was effective, and three (3.4%) reported that street and community outreach was very effective.

There was one (1.1%) consumer who was over 64 years of age that responded in this area. The consumer reported that street and community outreach was very effective. There were no (0.0%) other responses reported in this section for this age group.

Collectively, all age categories appeared to agree that there was some degree of effectiveness for street and community outreach to change risky sexual behavior; there was 21.3% of the total population who responded that street and community outreach was somewhat effective, 28.1% who responded that street and community outreach was effective, and 36.0% who responded that street and community outreach was very effective. A total of 0.0 % of respondents reported that street and community outreach was ineffective.

As illustrated in Table 9, the statistical measurement phi ($\Phi$) was administered to test for the strength of association between age category and perceived effectiveness of street and community outreach. As indicated, there was a weak relationship ($\Phi = .442$)

between the two variables. The chi square statistical test for significance also yielded that there was no statistically significant relationship ($p = .297$) between the two variables at .05 level of probability. Therefore, the researcher failed to reject the null hypothesis.

Table 10 is a cross tabulation which indicates HIV-infected consumers' (by age) responses and perceptions about effectiveness of community level intervention for changing risky sexual behavior.

Table 10

Age category by perceived effectiveness of community level intervention*

| | Age | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 18-24 | | 25-34 | | 35-44 | | 45-54 | | 55-64 | | Over 64 | | Total | |
| | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| Community Level Intervention | | | | | | | | | | | | | | |
| Don't Know | 1 | 1.1 | 0 | 0 | 6 | 6.9 | 4 | 4.6 | 2 | 2.3 | 0 | 0 | 13 | 14.9 |
| Not Effective | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1.1 | 1 | 1.1 |
| Somewhat Effective | 0 | 0 | 4 | 4.6 | 5 | 5.7 | 6 | 6.9 | 1 | 1.1 | 0 | 0 | 16 | 18.4 |
| Effective | 0 | 0 | 8 | 9.2 | 11 | 12.6 | 11 | 12.6 | 1 | 1.1 | 0 | 0 | 31 | 35.6 |
| Very Effective | 1 | 1.1 | 3 | 3.4 | 17 | 19.5 | 3 | 3.4 | 2 | 2.3 | 0 | 0 | 26 | 29.9 |
| Total | 2 | 2.3 | 15 | 17.2 | 39 | 44.8 | 24 | 27.6 | 6 | 6.9 | 1 | 1.1 | 87 | 100.0 |

$\Phi = 1.094$ df = 20 $p = .000$

* Significant at .01

** Significant at .05

*** Significant at .10

As indicated in Table 10, there were two (2.3%) consumers between the ages 18 and 24 years who responded to this question. One (1.1%) consumer reported not knowing whether community level intervention, none (0.0%) of the consumers reported that community level intervention was not effective methods for changing risky sexual behavior, none (0.0%) of the consumers reported that community level intervention was somewhat effective, none (0.0%) of the consumers reported community level intervention to be effective and one (1.1%) consumer reported that street and community outreach was very effective.

None (0.0%) of the consumers between ages 25 and 34 years reported not knowing whether community level intervention was effective in changing risky sexual behavior, none (0.0%) of the consumers reported that community level intervention was not effective, four (4.6%) consumers between the ages 25 to 34 years reported that community level intervention was somewhat effective, eight (9.2%) consumers between the ages of 25 and 34 reported that community level intervention was effective, and three (3.4%) consumers reported that community level intervention was very effective.

There were thirty-nine (44.8%) consumers between the ages of 35 and 44 years who respondents. Six (6.9%) consumers reported that they did not know if community level intervention was effective, none (0.0%) of the consumers reported that community level intervention was not effective, five (5.7%) consumers reported that community level intervention was somewhat effective, eleven (12.6%) consumers reported that community level intervention was effective, and seventeen (19.5%) consumers reported that community level intervention was very effective.

There were twenty-four (27.6%) consumers between the ages of 45 and 54 years. Four (4.6%) consumers reported that they did not know whether community level intervention was effective, none (0.0%) of the consumers reported that community level intervention was not effective, six (6.9%) consumers reported that community level intervention was somewhat effective, eleven (12.6%) consumers reported that community level intervention was effective, and three (3.4%) consumers reported that community level intervention was very effective.

Six (6.9%) consumers between the ages of 55 and 64 years responded to the question regarding perceived effectiveness of community level intervention. Two (2.3%) consumers reported that not knowing whether community level intervention was effective, none (0.0%) of the consumers reported that community level intervention was not effective, one (1.1%) consumer reported that community level intervention was somewhat effective, one (1.1%) consumer reported that community level intervention was effective, and two (2.3%) reported that community level intervention was very effective.

There was one (1.1%) consumer who was over 64 years of age that responded in this area. The consumer reported that community level intervention was not effective. There were no (0.0%) other responses reported in this section for this age group.

Collectively, all age categories appeared to agree that there was some degree of effectiveness for community level intervention to change risky sexual behavior; there was 18.4% of the total population who responded that community level intervention was somewhat effective, 35.6% who responded that community level intervention was effective, and 29.9% who responded that community level intervention was very

effective. A total of 1.1 % of respondents reported that community level intervention was ineffective.

As illustrated in Table 10, the statistical measurement phi ($\Phi$) was administered to test for the strength of association between age category and perceived effectiveness of community level intervention. As indicated, there was a strong relationship ($\Phi = 1.094$) between the two variables. The chi square statistical test for significance also yielded that there was a statistically significant relationship ($p = .000$) between the two variables at .01 level of probability. Therefore, the researcher rejected the null hypothesis.

Table 11 is a cross tabulation which indicates HIV-infected consumers' (by age) responses and perceptions about effectiveness of prevention case management for changing risky sexual behavior.

Table 11

Age category by perceived effectiveness of prevention case management

| | Age | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | 18-24 | | 25-34 | | 35-44 | | 45-54 | | 55-64 | | Over 64 | | Total | |
| | # | % | # | % | # | % | # | % | # | % | # | % | # | % |
| Prevention Case Management | | | | | | | | | | | | | | |
| Don't Know | 1 | 1.2 | 0 | 0 | 4 | 4.9 | 2 | 2.5 | 1 | 1.2 | 0 | 0 | 8 | 9.9 |
| Not Effective | 0 | 0 | 0 | 0 | 2 | 2.5 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2.5 |
| Somewhat Effective | 0 | 0 | 4 | 4.9 | 3 | 3.7 | 3 | 3.7 | 0 | 0 | 0 | 0 | 10 | 12.3 |
| Effective | 1 | 1.2 | 8 | 9.9 | 14 | 17.3 | 9 | 11.1 | 3 | 3.7 | 0 | 0 | 35 | 43.2 |
| Very Effective | 1 | 1.2 | 4 | 4.9 | 17 | 21.0 | 2 | 2.5 | 2 | 2.5 | 0 | 0 | 26 | 32.1 |
| Total | 3 | 3.7 | 16 | 19.8 | 40 | 49.4 | 16 | 19.8 | 6 | 7.4 | 0 | 0 | 81 | 100.0 |

$\Phi = .434$ $df = 16$ $p = .507$

* Significant at .01

** Significant at .05

*** Significant at .10

As indicated in Table 11, there were three (3.7%) consumers between the ages 18 and 24 years who responded to this question. One (1.2%) consumer reported not knowing whether prevention case management was effective for changing risky sexual behavior, none (0.0%) of the consumers reported that prevention case management was not effective methods for changing risky sexual behavior, none (0.0%) of the consumers

reported that prevention case management was somewhat effective, one (1.2%) reported prevention case management to be effective and one (1.2%) consumer reported that prevention case management was very effective.

None (0.0%) of the consumers between ages 25 and 34 years reported not knowing whether prevention case management was effective in changing risky sexual behavior, none (0.0%) of the consumers reported that prevention case management was not effective, four (4.9%) consumers between the ages 25 to 34 years reported that prevention case management was somewhat effective, eight (9.9%) consumers between the ages of 25 and 34 reported that prevention case management was effective, and four (4.9%) consumers reported that prevention case management was very effective.

There were forty (49.4%) consumers between the ages of 35 and 44 years who respondents. Four (4.9%) consumers reported that they did not know if prevention case management was effective, two (2.5%) consumers reported that prevention case management was not effective, three (3.7%) consumers reported that prevention case management was somewhat effective, fourteen (17.3%) consumers reported that prevention case management was effective, and seventeen (21.0%) consumers reported that prevention case management was very effective.

There were sixteen (19.8%) consumers between the ages of 45 and 54 years. Two (2.5%) consumers reported that they did not know whether prevention case management was effective, no (0%) consumers reported that prevention case management was not effective, three (3.7%) consumers reported that prevention case management was somewhat effective, nine (11.1%) consumers reported that prevention case management

was effective, and two (2.5%) consumers reported that prevention case management was very effective.

Six (7.4%) consumers between the ages of 55 and 64 years responded to the question regarding perceived effectiveness of prevention case management. One (1.2%) consumers reported that not knowing whether prevention case management was effective, none (0.0%) of the consumers reported that prevention case management was not effective, none (0.0%) of the consumers reported that prevention case management was somewhat effective, three (3.7%) consumers reported that prevention case management was effective, and two (2.5%) reported that prevention case management was very effective. None (0.0%) of the consumers over the age of 64 years responded to this question.

Collectively, all age categories that responded to the question appeared to agree that there was some degree of effectiveness for prevention case management to change risky sexual behavior; there was 12.3% of the total population who responded that prevention case management was somewhat effective, 43.2% who responded that prevention case management was effective, and 32.1% who responded that prevention case management was very effective. A total of 2.5 % of respondents reported that prevention case management was ineffective.

As illustrated in Table 11, the statistical measurement phi ($\Phi$) was administered to test for the strength of association between age and perceived effectiveness of prevention case management. As indicated, there was a weak relationship ($\Phi = .434$) between the two variables. The chi square statistical test for significance also yielded that

there was no statistically significant relationship ($p = .507$) between the two variables at .05 level of probability. Therefore, the researcher failed to reject the null hypothesis.

In summation, all six age categories responded to the five services reporting that there was some level of effectiveness; however, there was only one strong relationship and one statistically significant relationship that were identified. This was the relationship between community level intervention and age category.

Table 12 is a cross tabulation which indicates HIV-infected consumers' (by race) responses and perceptions about effectiveness of individual level intervention changing risky sexual behavior.

Table 12

Race by perceived effectiveness of individual level intervention**

| | Race | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | African-American | | Asian-American | | European-American | | Native-American | | Multi-Racial | | Total | |
| | # | % | # | % | # | % | # | % | # | % | # | % |
| Individual Level Intervention | | | | | | | | | | | | |
| Don't Know | 7 | 5.1 | 1 | 0.7 | 1 | 0.7 | 0 | 0 | 0 | 0 | 9 | 6.9 |
| Not Effective | 1 | 0.7 | 0 | 0 | 1 | 0.7 | 0 | 0 | 0 | 0 | 2 | 1.5 |
| Somewhat Effective | 20 | 14.6 | 0 | 0 | 11 | 8.0 | 3 | 2.2 | 2 | 1.5 | 36 | 26.3 |
| Effective | 33 | 24.1 | 0 | 0 | 6 | 4.4 | 0 | 0 | 1 | 0.7 | 40 | 29.2 |
| Very Effective | 40 | 29.2 | 1 | 0.7 | 5 | 3.6 | 0 | 0 | 4 | 2.9 | 50 | 36.5 |
| Total | 101 | 73.7 | 2 | 1.5 | 24 | 17.5 | 3 | 2.2 | 7 | 5.1 | 137 | 100.0 |

$\Phi = .439$ $df = 16$ $p = .048$

* Significant at .01

** Significant at .05

*** Significant at .10

As indicated in Table 12, there were one hundred and one (73.7%) African-American/black consumers who responded to this question. Seven (5.1%) consumers reported not knowing whether individual level intervention was effective for changing risky sexual behavior, one (0.7%) consumer reported that individual level intervention was not effective methods for changing risky sexual behavior, twenty (14.6%) consumers reported that individual level intervention was somewhat effective,

thirty-three consumers (24.1%) consumers reported individual level intervention to be effective and forty (29.2%) consumers reported that individual level intervention was very effective.

Two (1.5%) consumers within the Asian-American/Asian category responded to this question. One (0.7%) consumer reported not knowing whether individual level intervention was effective in changing risky sexual behavior, none (0.0%) of the consumers reported that individual level intervention was not effective, none (0.0%) of the consumers reported that prevention case management was somewhat effective, none (0.0%) of the consumers reported that individual level intervention was effective, and one (0.7%) consumer reported that individual level intervention was very effective.

There were twenty-four (17.5%) consumers, who identified as European-American/Caucasian, who responded to this question. One (0.7%) consumer reported that they did not know if individual level intervention was effective, one (0.7%) consumer reported that individual level intervention was not effective, eleven (8.0%) consumers reported that individual level intervention was somewhat effective, six (4.4%) consumers reported that individual level intervention was effective, and five (3.6%) consumers reported that individual level intervention was very effective.

There were three (2.2%) consumers, who identified as Native-American/ American-Indian/Alaskan Native, who responded to this question. None (0.0%) of the consumers reported that they did not know whether individual level intervention was effective, none (0.0%) of the consumers reported that individual level intervention was not effective, three (2.2%) consumers reported that individual level intervention was somewhat effective, none (0.0%) of the consumers reported that individual level

intervention was effective, and none (0.0%) of the consumers reported that individual level intervention was very effective.

Seven (5.1%) consumers who identified as multi-racial responded to this question. None (0.0%) of the consumers reported not knowing whether individual level intervention was effective, none (0.0%) of the consumes reported that individual level intervention was not effective, two (1.5%) consumers reported that individual level intervention was somewhat effective, one (0.7%) consumer reported that individual level intervention was effective, and four (2.9%) consumers reported that individual level intervention was very effective.

Collectively, all ethnic groups appeared to agree that there was some degree of effectiveness for individual level intervention to change risky sexual behavior; there was 26.3% of the total population who responded that individual level intervention was somewhat effective, 29.2% who responded that individual level intervention was effective, and 36.5% who responded that individual level intervention was very effective.

As illustrated in Table 12, the statistical measurement phi ($\Phi$) was administered to test for the strength of association between race and effectiveness of individual level intervention. As indicated, there was a weak relationship ($\Phi = .439$) between the two variables. The chi square statistical test for significance also yielded that there was a statistically significant relationship ($p = .048$) between the two variables at .05 level of probability. Therefore, the researcher rejected the null hypothesis.

Table 13 is a cross tabulation which indicates HIV-infected consumers' (by race) responses and perceptions about effectiveness of group level intervention changing risky sexual behavior.

Table 13

Race by perceived effectiveness of group level intervention

| | Race | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | African-American | | Asian-American | | European-American | | Native-American | | Multi Racial | | Total | |
| | # | % | # | % | # | % | # | % | # | % | # | % |
| Group Level Intervention | | | | | | | | | | | | |
| Don't Know | 7 | 6.0 | 0 | 0 | 2 | 1.7 | 0 | 0 | 1 | 0.9 | 10 | 8.5 |
| Not Effective | 1 | 0.9 | 0 | 0 | 1 | 0.9 | 0 | 0 | 0 | 0 | 2 | 1.7 |
| Somewhat Effective | 14 | 12.0 | 0 | 0 | 8 | 6.8 | 1 | .9 | 1 | 0.9 | 24 | 20.5 |
| Effective | 31 | 26.5 | 0 | 0 | 6 | 5.1 | 3 | 2.6 | 2 | 1.7 | 42 | 35.9 |
| Very Effective | 32 | 27.4 | 2 | 1.7 | 4 | 3.4 | 0 | 0 | 1 | 0.9 | 39 | 33.3 |
| Total | 85 | 72.6 | 2 | 1.7 | 21 | 17.9 | 4 | 3.4 | 5 | 4.3 | 117 | 100.0 |

$\Phi = .368$ $df = 16$ $p = .462$

* Significant at .01

** Significant at .05

*** Significant at .10

As indicated in Table 13, there were eighty-five (72.6%) African-American consumers that responded to this question. Seven (6.0%) consumers reported not knowing whether group level intervention was effective for changing risky sexual behavior, one (0.9%) consumer reported that group level intervention was not effective methods for changing risky sexual behavior, fourteen (12.0%) consumers reported that group level intervention was somewhat effective, thirty-one consumers (26.5%)

consumers reported group level intervention to be effective and thirty-two (27.4%) consumers reported that group level intervention was very effective.

Two (1.7%) consumers within the Asian-American/Asian category responded to this question. None (0.0%) of the consumers reported not knowing whether group level intervention was effective in changing risky sexual behavior, none (0.0%) of the consumers reported that group level intervention was not effective, none (0.0%) of the consumers reported that group level intervention was somewhat effective, none (0.0%) of the consumers reported that group level intervention was effective, and two (1.7%) consumers reported that group level intervention was very effective.

There were twenty-one (17.9%) consumers, who identified as European-American, who responded to this question. Two (1.7%) consumers reported that they did not know if group level intervention was effective, one (0.9%) consumer reported that group level intervention was not effective, eight (6.8%) consumers reported that group level intervention was somewhat effective, six (5.1%) consumers reported that group level intervention was effective, and four (3.4%) consumers reported that group level intervention was very effective.

There were four (3.4%) consumers, who identified as Native-American/ American-Indian/Alaskan Native, who responded to the question. None (0.0%) of the consumers reported that they did not know whether group level intervention was effective, none (0.0%) of the consumers reported that group level intervention was not effective, one (0.9%) consumer reported that group level intervention was somewhat effective, three (2.6%) consumers reported that group level intervention was effective,

and none (0.0%) of the consumers reported that group level intervention was very effective.

Five (4.3%) consumers who identified as multi-racial responded to this question. One (0.9%) consumer reported that not knowing whether group level intervention was effective, none (0.0%) of the consumers reported that group level intervention was not effective, one (0.9%) consumer reported that group level intervention was somewhat effective, two (1.7%) consumers reported that group level intervention was effective, and one (0.9%) consumer reported that group level intervention was very effective.

Collectively, all ethnic groups appeared to agree that there was some degree of effectiveness for group level intervention to change risky sexual behavior; there was 20.5% of the total population who responded that group level intervention was somewhat effective, 35.9% who responded that group level intervention was effective, and 33.3% who responded that group level intervention was very effective. A total of 1.7 % of respondents reported that group level intervention was ineffective.

As illustrated in Table 13, the statistical measurement phi ($\Phi$) was administered to test for the strength of association between race and perceived effectiveness of group level intervention. As indicated, there was a weak relationship ($\Phi = .368$) between the two variables. The chi square statistical test for significance also yielded that there was no statistically significant relationship ($p = .462$) between the two variables at .05 level of probability. Therefore, the researcher failed to reject the null hypothesis.

Table 14 is a cross tabulation which indicates HIV-infected consumers' (by race) responses and perceptions about effectiveness of street and community outreach intervention changing risky sexual behavior.

Table 14

Race by perceived effectiveness of street and community outreach***

| | Race | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | African-American | | Asian-American | | European-American | | Native-American | | Multi-Racial | | Total | |
| | # | % | # | % | # | % | # | % | # | % | # | % |
| Street and Community Outreach | | | | | | | | | | | | |
| Don't Know | 11 | 12.0 | 0 | 0 | 2 | 2.2 | 0 | 0 | 0 | 0 | 13 | 14.1 |
| Not Effective | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Somewhat Effective | 12 | 13.0 | 0 | 0 | 8 | 8.7 | 2 | 2.2 | 0 | 0 | 22 | 23.9 |
| Effective | 18 | 19.6 | 0 | 0 | 4 | 4.3 | 2 | 2.2 | 2 | 2.2 | 26 | 28.3 |
| Very Effective | 26 | 28.3 | 2 | 1.7 | 2 | 2.2 | 0 | 0 | 1 | 1.1 | 31 | 33.7 |
| Total | 67 | 72.8 | 2 | 2.2 | 16 | 17.4 | 4 | 4.3 | 3 | 3.3 | 92 | 100.0 |

$\Phi = .454$ $df = 12$ $p = .089$

* Significant at .01

** Significant at .05

*** Significant at .10

As indicated in Table 14, there were sixty-seven (72.8%) African-American consumers that responded to this question. Eleven (12.0%) consumers reported not knowing whether street and community outreach was effective for changing risky sexual behavior, none (0.0%) of the consumers reported that street and community outreach effective methods for changing risky sexual behavior, twelve (13.0%) consumers reported that street and community outreach was somewhat effective, eighteen

consumers (19.6%) consumers reported street and community outreach to be effective and twenty-six (28.3%) consumers reported that street and community outreach was very effective.

Two (2.2%) consumers within the Asian-American/Asian category responded to this question. None (0.0%) of the consumers reported not knowing whether street and community outreach was effective in changing risky sexual behavior, none (0.0%) of the consumers reported that street and community outreach was not effective, none (0.0%) of the consumers reported that street and community outreach was somewhat effective, none (0%) of the consumers reported that street and community outreach was effective, and two (2.2%) consumer reported that street and community outreach was very effective.

There were sixteen (17.4%) consumers, who identified as European-American, who responded to this question. Two (2.2%) consumers reported that they did not know if street and community outreach was effective, none (0.0%) of the consumers reported that street and community outreach was not effective, eight (8.7%) consumers reported that street and community outreach was somewhat effective, four (4.3%) consumers reported that street and community outreach was effective, and two (2.2%) consumers reported that street and community outreach was very effective.

There were four (4.3%) consumers, who identified as Native-American/ American-Indian/Alaskan Native, who responded to the question. None (0.0%) of the consumers reported that they did not know whether street and community outreach was effective, none (0.0%) of the consumers reported that street and community outreach was not effective, two (2.2%) consumer reported that street and community outreach was

somewhat effective, two (2.2%) consumers reported that street and community outreach was effective, and none (0.0%) of the consumers reported that street and community outreach was very effective.

Three (3.3%) consumers who identified as multi-racial responded to this question. None (0.0%) of the consumers reported that not knowing whether street and community outreach was effective, none (0.0%) of the consumers reported that street and community outreach was not effective, none (0.0%) of the consumers reported that street and community outreach was somewhat effective, two (2.2%) consumers reported that street and community outreach was effective, and one (1.1%) consumer reported that street and community outreach was very effective.

Collectively, all ethnic groups appeared to agree that there was some degree of effectiveness for street and community outreach to change risky sexual behavior; there was 23.9% of the total population who responded that street and community outreach was somewhat effective, 28.3% who responded that street and community outreach was effective, and 33.7% who responded that street and community outreach was very effective. A total of 0.0 % of respondents reported that street and community outreach was ineffective.

As illustrated in Table 14, the statistical measurement phi ($\Phi$) was administered to test for the strength of association between race and perceived effectiveness of street and community outreach intervention. As indicated, there was a weak relationship ($\Phi$ = .454) between the two variables. The chi square statistical test for significance also yielded that there was a statistically significant relationship ($p$ = .089) between the two

variables at .10 level of probability. Therefore, the researcher rejected the null hypothesis.

Table 15 is a cross tabulation which indicates HIV-infected consumers' (by race) responses and perceptions about effectiveness of community level intervention changing risky sexual behavior.

Table 15

Race by perceived effectiveness of community level intervention

| | Race | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | African-American | | Asian-American | | European-American | | Native-American | | Multi-Racial | | Total | |
| | # | % | # | % | # | % | # | % | # | % | # | % |
| Community Level Intervention | | | | | | | | | | | | |
| Don't Know | 11 | 12.4 | 0 | 0 | 2 | 2.2 | 0 | 0 | 0 | 0 | 13 | 14.6 |
| Not Effective | 0 | 0.0 | 0 | 0 | 1 | 1.1 | 0 | 0 | 0 | 0 | 1 | 1.1 |
| Somewhat Effective | 10 | 11.2 | 0 | 0 | 5 | 5.6 | 2 | 2.2 | 0 | 0 | 17 | 19.1 |
| Effective | 25 | 28.1 | 0 | 0 | 5 | 5.6 | 2 | 2.2 | 1 | 1.1 | 33 | 37.1 |
| Very Effective | 19 | 21.3 | 1 | 1.1 | 3 | 3.4 | 0 | 0 | 2 | 2.2 | 25 | 28.1 |
| Total | 65 | 73.0 | 1 | 1.1 | 16 | 18.0 | 4 | 4.5 | 3 | 3.4 | 89 | 100.0 |

$\Phi = .428$ $df = 16$ $p = .431$

* Significant at .01

** Significant at .05

*** Significant at .10

As indicated in Table 15, there were sixty-five (73.0%) African-American consumers that responded to this question. Eleven (12.4%) consumers reported not knowing whether community level intervention was effective for changing risky sexual

behavior, none (0.0%) of the consumers reported that community level intervention effective methods for changing risky sexual behavior, ten (11.2%) consumers reported that community level intervention was somewhat effective, twenty-five (28.1%) consumers reported community level intervention to be effective and nineteen (21.3%) consumers reported that community level intervention was very effective.

One (1.1%) consumers within the Asian-American/Asian category responded to this question. None (0.0%) of the consumers reported not knowing whether community level intervention was effective in changing risky sexual behavior, none (0.0%) of the consumers reported that community level intervention was not effective, none (0.0%) of the consumers reported that community level intervention was somewhat effective, none (0.0%) of the consumers reported that community level intervention was effective, and one (1.1%) consumer reported that community level intervention was very effective.

There were sixteen (18.0%) consumers, who identified as European-American, who responded to this question. Two (2.2%) consumers reported that they did not know if prevention community level intervention was effective, one (1.1%) consumer reported that community level intervention was not effective, five (5.6%) consumers reported that community level intervention was somewhat effective, five (5.6%) consumers reported that community level intervention was effective, and three (3.4%) consumers reported that community level intervention was very effective.

There were four (4.5%) consumers, who identified as Native American/ American-Indian/Alaskan Native, who responded to the question. None (0.0%) of the consumers reported that they did not know whether community level intervention was effective, none (0.0%) of the consumers reported that community level intervention was

not effective, two (2.2%) consumers reported that community level intervention was somewhat effective, two (2.2%) consumers reported that community level intervention was effective, and none (0.0%) of the consumers reported that community level intervention was very effective.

Three (3.4%) consumers who identified as multi-racial responded to this question. None (0.0%) of the consumers reported that not knowing whether community level intervention was effective, none (0.0%) of the consumers reported that community level intervention was not effective, none (0.0%) of the consumers reported that community level intervention was somewhat effective, one (1.1%) consumers reported that community level intervention was effective, and two (2.2%) consumers reported that community level intervention was very effective.

Collectively, all ethnic groups appeared to agree that there was some degree of effectiveness for community level interventions to change risky sexual behavior; there was 19.1% of the total population who responded that community level intervention was somewhat effective, 37.1% who responded that community level intervention was effective, and 28.1% who responded that community level intervention was very effective. A total of 1.1 % of respondents reported that community level intervention was ineffective.

As illustrated in Table 15, the statistical measurement phi ($\Phi$) was administered to test for the strength of association between race and perceived effectiveness of community level intervention. As indicated, there was a weak relationship ($\Phi = .428$) between the two variables. The chi square statistical test for significance also yielded that

there was no statistically significant relationship ($p = .431$) between the two variables at .05 level of probability. Therefore, the researcher failed to reject the null hypothesis.

Table 16 is a cross tabulation which indicates HIV-infected consumers' (by race) responses and perceptions about effectiveness of prevention case management changing risky sexual behavior.

Table 16

Race by perceived effectiveness of prevention case management

| | Race | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | African-American | | Asian-American | | European-American | | Native-American | | Multi-Racial | | Total | |
| | # | % | # | % | # | % | # | % | # | % | # | % |
| Prevention Case Management | | | | | | | | | | | | |
| Don't Know | 6 | 7.1 | 0 | 0 | 2 | 2.4 | 0 | 0 | 0 | 0 | 8 | 9.5 |
| Not Effective | 2 | 2.4 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2.4 |
| Somewhat Effective | 8 | 9.5 | 0 | 0 | 0 | 0 | 2 | 2.4 | 0 | 0 | 10 | 11.9 |
| Effective | 27 | 32.1 | 0 | 0 | 7 | 8.3 | 2 | 2.4 | 1 | 1.2 | 37 | 44.0 |
| Very Effective | 24 | 28.6 | 1 | 1.2 | 0 | 0 | 0 | 0 | 2 | 2.4 | 27 | 32.1 |
| Total | 67 | 79.8 | 1 | 1.2 | 9 | 10.7 | 4 | 4.8 | 3 | 3.6 | 84 | 100.0 |

$\Phi = .480$ $df = 16$ $p = .252$

* Significant at .01

** Significant at .05

*** Significant at .10

As indicated in Table 16, there were sixty-seven (79.8%) African-American consumers that responded to this question. Six (7.1%) consumers reported not knowing whether prevention case management was effective for changing risky sexual behavior, two (2.4%) consumer reported that prevention case management effective methods for changing risky sexual behavior, eight (9.5%) consumers reported that prevention case management was somewhat effective, twenty-seven (32.1%) consumers reported prevention case management to be effective and twenty-four (28.6%) consumers reported that prevention case management was very effective.

One (1.2%) consumers within the Asian-American/Asian category responded to this question. None (0.0%) of the consumers reported not knowing whether prevention case management was effective in changing risky sexual behavior, none (0.0%) of the consumers reported that prevention case management was not effective, none (0.0%) of the consumers reported that prevention case management was somewhat effective, none (0%) of the consumers reported that prevention case management was effective, and one (1.2%) consumer reported that prevention case management was very effective.

There were nine (10.7%) consumers, who identified as European-American, who responded to this question. Two (2.4%) consumers reported that they did not know if prevention case management was effective, none (0.0%) of the consumers reported that prevention case management was not effective, none (0.0%) of the consumers reported that prevention case management was somewhat effective, seven (8.3%) consumers reported that prevention case management was effective, and none (0.0%) of the consumers reported that prevention case management was very effective.

There were four (4.8%) consumers, who identified as Native-American/ American-Indian/Alaskan Native, who responded to the question. None (0.0%) of the consumers reported that they did not know whether prevention case management was effective, none (0.0%) of the consumers reported that prevention case management was not effective, two (2.4%) consumers reported that prevention case management was somewhat effective, two (2.4%) consumers reported that prevention case management was effective, and none (0.0%) of the consumers reported that prevention case management was very effective.

Three (3.6%) consumers who identified as multi-racial responded to this question. None (0.0%) of the consumers reported that not knowing whether prevention case management was effective, none (0.0%) of the consumers reported that prevention case management was not effective, none (0.0%) of the consumers reported that prevention case management was somewhat effective, one (1.2%) consumer reported that prevention case management was effective, and two (2.4%) consumers reported that prevention case management was very effective.

Collectively, all ethnic groups appeared to agree that there was some degree of effectiveness for prevention case management to change risky sexual behavior; there was 11.9% of the total population who responded that prevention case management was somewhat effective, 44.0% who responded that prevention case management was effective, and 32.1% who responded that prevention case management was very effective.

As illustrated in Table 16, the statistical measurement phi ($\Phi$) was administered to test for the strength of association between race and perceived effectiveness of

prevention case management. As indicated, there was a weak relationship ($\Phi = .480$) between the two variables. The chi square statistical test for significance also yielded that there was no statistically significant relationship ($p = .252$) between the two variables at .05 level of probability. Therefore, the researcher failed to reject the null hypothesis.

In summation, all five ethnic groups responded to the five services reporting that there was some level of effectiveness; however, there were no strong relationships that were recorded and two statistically significant relationships that were identified: perceived effectiveness of individual level intervention and ethnic group; and perceived effectiveness of street and community outreach and ethnic group.

Research Question 2: Is there a relationship between barriers to services and the perceived effectiveness of HIV/AIDS related services for risk reduction by the HIV-infected consumer within the state of Georgia?

Hypothesis 2: There is no statistically significant relationship between barriers to services and the perceived effectiveness of HIV/AIDS related services for risk reduction by the HIV-infected consumer within the state of Georgia.

The area that was used to define barriers was living area (urban, suburban, and rural). A one-way analysis of variance (ANOVA) was computed for the independent variables. The ANOVA was employed to investigate the differences between and within groups.

Table 17 is an ANOVA of perceived effectiveness of individual level intervention by consumers' living area.

Table 17

Consumers' living area by perceived effectiveness of individual level intervention**

| | DF | SS | MS | F | P |
|---|---|---|---|---|---|
| Between Groups | 2 | 10.187 | 5.094 | 4.399 | .014 |
| Within Groups | 129 | 149.358 | 1.158 | | |
| Total | 131 | 159.545 | | | |

* Significant at .01; ** Significant at .05; *** Significant at .10

A one-way ANOVA was computed to compare the perceived effectiveness of individual level intervention by consumers within various living areas (urban, suburban, and rural). A significant mean difference was found among living areas ($F(2, 129) = 4.399, p < .05$). Tukey's HSD was used to determine the nature of the differences between living areas. This analysis revealed evidence that consumers within urban areas ($m = 4.19$, $sd = .864$) found individual level interventions to be more effective than consumers within rural areas ($m = 3.56$, $sd = 1.128$). The researcher rejected the null hypothesis.

Table 18 is an ANOVA of perceived effectiveness of group level intervention by consumers' living area.

Table 18

Consumers' living area by perceived effectiveness of group level intervention**

| | DF | SS | MS | F | P |
|---|---|---|---|---|---|
| Between Groups | 2 | 10.006 | 5.003 | 3.808 | .025 |
| Within Groups | 111 | 145.827 | 1.314 | | |
| Total | 113 | 155.833 | | | |

* Significant at .01; ** Significant at .05; *** Significant at .10

A one-way ANOVA was computed to compare the perceived effectiveness of group level intervention by consumers within various living areas (urban, suburban, and rural). A significant mean difference was found among living areas ($F(2, 111) = 3.808$, $p < .05$). Tukey's HSD was used to determine the nature of the differences between living areas. This analysis revealed evidence that consumers within urban areas ($m = 4.16$, $sd = .903$) found group level interventions to be more effective than consumers within suburban areas ($m = 3.48$, $sd = 1.447$). The researcher rejected the null hypothesis.

Table 19 is an ANOVA of perceived effectiveness of street and community outreach by consumers' living area.

Table 19

Consumers' living area by perceived effectiveness of street and community outreach**

| | DF | SS | MS | F | P |
|---|---|---|---|---|---|
| Between Groups | 2 | 10.026 | 5.013 | 2.945 | .058 |
| Within Groups | 85 | 144.690 | 1.702 | | |
| Total | 87 | 154.716 | | | |

* Significant at .01; ** Significant at .05; *** Significant at .10

A one-way ANOVA was computed to compare the perceived effectiveness of street and community outreach by consumers within various living areas (urban, suburban, and rural). A significant mean difference was found among living areas ($F(2, 85) = 2.945, p \leq .05$). Tukey's HSD was used to determine the nature of the differences between living areas. This analysis revealed evidence that consumers within urban areas ($m = 3.98, sd = 1.165$) found street and community outreach to be more effective than consumers within suburban areas ($m = 3.06, sd = 1.713$). The researcher rejected the null hypothesis.

Table 20 is an ANOVA of perceived effectiveness of community level intervention by consumers' living area.

Table 20

Consumers' living area by perceived effectiveness of community level intervention**

| | DF | SS | MS | F | P |
|---|---|---|---|---|---|
| Between Groups | 2 | 11.150 | 5.575 | 3.504 | .035 |
| Within Groups | 83 | 132.070 | 1.591 | | |
| Total | 85 | 143.221 | | | |

* Significant at .01; ** Significant at .05; *** Significant at .10

A one-way ANOVA was computed to compare the perceived effectiveness of community level intervention by consumers within various living areas (urban, suburban, and rural). A significant mean difference was found among living areas ($F(2, 83) = 3.504, p < .05$). Tukey's HSD was used to determine the nature of the differences between living areas. This analysis revealed evidence that consumers within urban areas ($m = 3.97, sd = 1.127$) found community level intervention to be more effective than consumers within suburban areas ($m = 3.00, sd = 1.658$). The researcher rejected the null hypothesis.

Table 21 is an ANOVA of perceived effectiveness of prevention case management by consumers' living area.

Table 21

Consumers' living area by perceived effectiveness of prevention case management

| | DF | SS | MS | F | P |
|---|---|---|---|---|---|
| Between Groups | 2 | 5.622 | 2.811 | 2.006 | .14 |
| Within Groups | 77 | 107.866 | 1.401 | | |
| Total | 79 | 113.488 | | | |

* Significant at .01; ** Significant at .05; *** Significant at .10

A one-way ANOVA was computed to compare the perceived effectiveness of prevention case management by consumers within various living areas (urban, suburban, and rural). No significant mean difference was found among living areas ($F(2, 77) = 2.006, p > .05$). This analysis revealed evidence that consumers from the three different living areas did not differ significantly in their perceptions about effectiveness of prevention case management. The researcher failed to reject the null hypothesis.

Research Question 3: Is there a relationship between years and the perceived effectiveness of HIV/AIDS related services for risk reduction by the HIV-infected consumer within the state of Georgia?

Hypothesis 3: There is no statistically significant relationship between years diagnosed and the perceived effectiveness of HIV/AIDS related services for risk reduction by the HIV-infected consumer within the state of Georgia.

A one-way analysis of variance (ANOVA) was computed for the independent variables. The ANOVA was employed to investigate the differences between and within groups.

Table 22 is an ANOVA of perceived effectiveness of individual level intervention by consumers' years diagnosed. The categories for years diagnosed were as follows: less than one year, 1-5 years, 6-10 years, 11-15 years, 16-20 years, and over 20 years.

Table 22

Years diagnosed by perceived effectiveness of individual level interventions**

| | DF | SS | MS | F | P |
|---|---|---|---|---|---|
| Between Groups | 5 | 13.622 | 2.635 | 2.199 | .059 |
| Within Groups | 121 | 144.981 | 1.198 | | |
| Total | 126 | 158.157 | | | |

* Significant at .01; ** Significant at .05; *** Significant at .10

A one-way ANOVA was computed to compare the perceived effectiveness of individual level intervention by years diagnosed. A significant mean difference was found among years diagnosed ($F(5, 121) = 2.199, p < .10$). Tukey's HSD was used to determine the nature of the differences between living areas. This analysis revealed evidence that consumers who have been diagnosed over 20 years ($m = 5.00$, $sd = .000$) found individual level interventions to be more effective than consumers who had been

diagnosed between 16 and 20 years ($m = 3.50$, $sd = 1.087$). The researcher rejected the null hypothesis.

Table 23 is an ANOVA of perceived effectiveness of group level intervention by consumers' years diagnosed. The categories for years diagnosed were as follows: less than one year, 1-5 years, 6-10 years, 11-15 years, 16-20 years, and over 20 years.

Table 23

Years diagnosed by perceived effectiveness of group level interventions

| | DF | SS | MS | F | P |
|---|---|---|---|---|---|
| Between Groups | 5 | 4.097 | .819 | .623 | .682 |
| Within Groups | 101 | 132.800 | 1.315 | | |
| Total | 106 | 136.897 | | | |

* Significant at .01; ** Significant at .05; *** Significant at .10

A one-way ANOVA was computed to compare the perceived effectiveness of group level intervention by the number of years the consumer had been diagnosed. No significant mean difference was found among consumers' years diagnosed ($F(5, 101) = .623, p > .05$). This analysis revealed evidence that consumers from the various categories of years diagnosed did not differ significantly in their perceptions about effectiveness of group level intervention. The researcher failed to reject the null hypothesis.

Table 24 is an ANOVA of perceived effectiveness of street and community outreach by consumers' years diagnosed. The categories for years diagnosed were as follows: less than one year, 1-5 years, 6-10 years, 11-15 years, 16-20 years, and over 20 years.

Table 24

Years diagnosed by perceived effectiveness of street and community outreach

| | DF | SS | MS | F | P |
|---|---|---|---|---|---|
| Between Groups | 5 | 10.834 | 2.167 | 1.197 | .319 |
| Within Groups | 76 | 137.605 | 1.811 | | |
| Total | 81 | 148.439 | | | |

* Significant at .01; ** Significant at .05; *** Significant at .10

A one-way ANOVA was computed to compare the perceived effectiveness of street and community outreach by the number of years the consumer had been diagnosed. No significant mean difference was found among consumers' years diagnosed ($F(5, 76) = 1.197, p > .05$). This analysis revealed evidence that consumers from the various categories of years diagnosed did not differ significantly in their perceptions about effectiveness of street and community outreach. The researcher failed to reject the null hypothesis.

Table 25 is an ANOVA of perceived effectiveness of community level intervention by consumers' years diagnosed. The categories for years diagnosed were as follows: less than one year, 1-5 years, 6-10 years, 11-15 years, 16-20 years, and over 20 years.

Table 25

Years diagnosed by perceived effectiveness of community level interventions

| | DF | SS | MS | F | P |
|---|---|---|---|---|---|
| Between Groups | 5 | 7.988 | 1.598 | .963 | .319 |
| Within Groups | 76 | 126.122 | 1.660 | | |
| Total | 81 | 134.110 | | | |

* Significant at .01; ** Significant at .05; *** Significant at .10

A one-way ANOVA was computed to compare the perceived effectiveness of community level intervention by the number of years the consumer had been diagnosed. No significant mean difference was found among consumers' years diagnosed ($F(5, 76) = .963, p > .05$). This analysis revealed evidence that consumers from the various categories of years diagnosed did not differ significantly in their perceptions about effectiveness of community level intervention. The researcher failed to reject the null hypothesis.

Table 26 is an ANOVA of perceived effectiveness of prevention case management by consumers' years diagnosed. The categories for years diagnosed were as follows: less than one year, 1-5 years, 6-10 years, 11-15 years, 16-20 years, and over 20 years.

Table 26

Years diagnosed by perceived effectiveness of prevention case management

| | DF | SS | MS | F | P |
|---|---|---|---|---|---|
| Between Groups | 5 | 9.861 | 1.972 | 1.526 | .192 |
| Within Groups | 73 | 94.317 | 1.292 | | |
| Total | 78 | 104.177 | | | |

* Significant at .01; ** Significant at .05; *** Significant at .10

A one-way ANOVA was computed to compare the perceived effectiveness of prevention case management by the number of years the consumer had been diagnosed. No significant mean difference was found among consumers' years diagnosed ($F(5, 73) = .192, p > .05$). This analysis revealed evidence that consumers from the various categories of years diagnosed did not differ significantly in their perceptions about effectiveness of prevention case management. The researcher failed to reject the null hypothesis.

Research Question 4: Is there a relationship between type of provider and perceived effectiveness of HIV/AIDS related services for risk reduction by the HIV-infected consumer within the state of Georgia?

Hypothesis 4: There is no statistically significant relationship between type of provider and the perceived effectiveness of HIV/AIDS related services for risk reduction by the HIV-infected consumer within the state of Georgia.

Table 27 is a cross tabulation which indicates HIV-infected consumers' responses regarding best type of provider and perceptions about effectiveness of individual level interventions for changing risky sexual behavior.

Table 27

Best type of provider by individual level intervention

| | Type of Provider | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Social Worker | | Physician/ Doctor | | Peer Vol. | | PCM | | Other | | Total | |
| | # | % | # | % | # | % | # | % | # | % | # | % |
| Individual Level Intervention | | | | | | | | | | | | |
| Don't Know | 2 | 1.5 | 0 | 0 | 2 | 1.5 | 2 | 1.5 | 2 | 1.5 | 8 | 5.9 |
| Not Effective | 0 | 0 | 1 | 0.7 | 0 | 0 | 0 | 0 | 1 | 0.7 | 2 | 1.5 |
| Somewhat Effective | 6 | 4.4 | 11 | 8.1 | 3 | 2.2 | 6 | 4.4 | 11 | 8.1 | 37 | 27.4 |
| Effective | 7 | 5.2 | 5 | 3.7 | 5 | 3.7 | 7 | 5.2 | 16 | 11.9 | 40 | 29.6 |
| Very Effective | 5 | 3.7 | 7 | 5.2 | 3 | 2.2 | 6 | 4.4 | 27 | 20.0 | 48 | 35.6 |
| Total | 20 | 14.8 | 24 | 17.8 | 13 | 9.6 | 21 | 15.6 | 57 | 42.2 | 135 | 100.0 |

$\Phi = .352$ df = 16 $p = .402$

* Significant at .01

** Significant at .05

*** Significant at .10

As indicated in Table 27, two (1.5%) consumers reported that they did not know whether social workers were effective in providing individual level interventions for changing sexual behavior, none (0.0%) of the consumers reported that social workers were not effective in providing individual level interventions for changing risky sexual behavior, six (4.4%) consumers reported that social workers were somewhat effective in providing individual level interventions for changing risky sexual behavior, seven (5.2%)

consumers reported that social workers were effective in providing individual level interventions for changing risky sexual behavior, and five (3.7%) consumers reported that social workers were very effective in providing individual level interventions for changing risky sexual behavior.

None (0.0%) of the consumers reported that they did not know whether physicians/doctors were effective in providing individual level interventions for changing sexual behavior, one (0.7%) consumer reported that physicians/doctors were not effective in providing individual level interventions for changing risky sexual behavior, eleven (8.1%) consumers reported that physicians/doctors were somewhat effective in providing individual level interventions for changing risky sexual behavior, five (3.7%) consumers reported that physicians/doctors were effective in providing individual level interventions for changing risky sexual behavior, and seven (5.2%) consumers reported that physicians/doctors were very effective in providing individual level interventions for changing risky sexual behavior.

Two (1.5%) consumers reported that they did not know whether peer volunteers were effective in providing individual level interventions for changing sexual behavior, none (0.0%) of the consumers reported that peer volunteers were not effective in providing individual level interventions for changing risky sexual behavior, three (2.2%) consumers reported that peer volunteers were somewhat effective in providing individual level interventions for changing risky sexual behavior, five (3.7%) consumers reported that peer volunteers were effective in providing individual level interventions for changing risky sexual behavior, and three (2.2%) consumers reported that peer volunteers

were very effective in providing individual level interventions for changing risky sexual behavior.

Two (1.5%) consumers reported that they did not know whether prevention case managers were effective in providing individual level interventions for changing sexual behavior, none (0.0%) of the consumers reported that prevention case managers were not effective in providing individual level interventions for changing risky sexual behavior, six (4.4%) consumers reported that prevention case managers were somewhat effective in providing individual level interventions for changing risky sexual behavior, seven (5.2%) consumers reported that prevention case managers were effective in providing individual level interventions for changing risky sexual behavior, and six (4.4%) consumers reported that prevention case managers were very effective in providing individual level interventions for changing risky sexual behavior.

Two (1.5%) consumers reported that they did not know whether other providers were effective in providing individual level interventions for changing sexual behavior, one (0.7%) consumer reported that other providers were not effective in providing individual level interventions for changing risky sexual behavior, eleven (8.1%) consumers reported that other providers were somewhat effective in providing individual level interventions for changing risky sexual behavior, sixteen (11.9%) consumers reported that other providers were effective in providing individual level interventions for changing risky sexual behavior, and twenty-seven (20.0%) consumers reported that other providers were very effective in providing individual level interventions for changing risky sexual behavior.

As illustrated in Table 27, the statistical measurement phi ($\Phi$) was administered to test for the strength of association between type of provider and perceived effectiveness of individual level intervention. As indicated, there was a weak relationship ($\Phi = .352$) between the two variables. The chi square statistical test for significance also yielded that there was no statistically significant relationship ($p = .402$) between the two variables at .05 level of probability. Therefore, the researcher failed to reject the null hypothesis.

Table 28 is a cross tabulation which indicates HIV-infected consumers' responses regarding best type of provider and perceptions about effectiveness of group level interventions for changing risky sexual behavior.

Table 28

Best type of provider by group level intervention

| | Type of Provider | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Social Worker | | Physician/ Doctor | | Peer Vol. | | PCM | | Other | | Total | |
| | # | % | # | % | # | % | # | % | # | % | # | % |
| Group Level Intervention | | | | | | | | | | | | |
| Don't Know | 0 | 0 | 3 | 2.7 | 2 | 1.8 | 0 | 0 | 1 | 0.9 | 6 | 5.3 |
| Not Effective | 0 | 0 | 0 | 0 | 1 | 0.9 | 0 | 0 | 1 | 0.9 | 2 | 1.8 |
| Somewhat Effective | 3 | 2.7 | 4 | 3.5 | 4 | 3.5 | 5 | 4.4 | 8 | 7.1 | 24 | 21.2 |
| Effective | 4 | 3.5 | 8 | 7.1 | 7 | 6.2 | 5 | 4.4 | 17 | 15.0 | 41 | 36.3 |
| Very Effective | 8 | 7.1 | 6 | 5.3 | 7 | 6.2 | 6 | 5.3 | 14 | 12.4 | 40 | 35.4 |
| Total | 14 | 12.4 | 21 | 18.6 | 21 | 18.6 | 16 | 14.2 | 41 | 36.3 | 113 | 100.0 |

$\Phi = .312$ df = 16 $p = .810$

* Significant at .01

** Significant at .05

*** Significant at .10

As indicated in Table 28, none (0.0%) of the consumers reported that they did not know whether social workers were effective in providing group level interventions for changing sexual behavior, none (0.0%) of the consumers reported that social workers were not effective in providing group level interventions for changing risky sexual behavior, three (2.7%) consumers reported that social workers were somewhat effective

in providing group level interventions for changing risky sexual behavior, four (3.5%) consumers reported that social workers were effective in providing group level interventions for changing risky sexual behavior, and seven (6.2%) consumers reported that social workers were very effective in providing group level interventions for changing risky sexual behavior.

Three (2.7%) consumers reported that they did not know whether physicians/ doctors were effective in providing group level interventions for changing sexual behavior, none (0.0%) of the consumers reported that physicians/doctors were not effective in providing group level interventions for changing risky sexual behavior, four (3.5%) consumers reported that physicians/doctors were somewhat effective in providing group level interventions for changing risky sexual behavior, eight (7.1%) consumers reported that physicians/doctors were effective in providing group level interventions for changing risky sexual behavior, and six (5.3%) consumers reported that physicians/doctors were very effective in providing group level interventions for changing risky sexual behavior.

Two (1.8%) consumers reported that they did not know whether peer volunteers were effective in providing group level interventions for changing sexual behavior, one (0.9%) consumer reported that peer volunteers were not effective in providing group level interventions for changing risky sexual behavior, four (3.5%) consumers reported that peer volunteers were somewhat effective in providing group level interventions for changing risky sexual behavior, seven (6.2%) consumers reported that peer volunteers were effective in providing group level interventions for changing risky sexual behavior,

and seven (6.2%) consumers reported that peer volunteers were very effective in providing group level interventions for changing risky sexual behavior.

None (0.0%) of the consumers reported that they did not know whether prevention case managers were effective in providing group level interventions for changing sexual behavior, none (0.0%) of the consumers reported that prevention case managers were not effective in providing group level interventions for changing risky sexual behavior, five (4.4%) consumers reported that prevention case managers were somewhat effective in providing group level interventions for changing risky sexual behavior, five (4.4%) consumers reported that prevention case managers were effective in providing group level interventions for changing risky sexual behavior, and six (5.3%) consumers reported that prevention case managers were very effective in providing group level interventions for changing risky sexual behavior.

One (0.9%) consumer reported that they did not know whether other providers were effective in providing group level interventions for changing sexual behavior, one (0.9%) consumer reported that other providers were not effective in providing group level interventions for changing risky sexual behavior, eight (7.1%) consumers reported that other providers were somewhat effective in providing group level interventions for changing risky sexual behavior, seventeen (15.0%) consumers reported that other providers were effective in providing group level interventions for changing risky sexual behavior, and fourteen (12.4%) consumers reported that other providers were very effective in providing group level interventions for changing risky sexual behavior.

As illustrated in Table 28, the statistical measurement phi ($\Phi$) was administered to test for the strength of association between type of provider and perceived

effectiveness of group level intervention. As indicated, there was a weak relationship ($\Phi = .312$) between the two variables. The chi square statistical test for significance also yielded that there was no statistically significant relationship ($p = .810$) between the two variables at .05 level of probability. Therefore, the researcher failed to reject the null hypothesis.

Table 29 is a cross tabulation which indicates HIV-infected consumers' responses regarding best type of provider and perceptions about effectiveness of street and community outreach for changing risky sexual behavior.

Table 29

Best type of provider by street and community outreach

| | Type of Provider | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Social Worker | | Physician/ Doctor | | Peer Vol. | | PCM | | Other | | Total | |
| | # | % | # | % | # | % | # | % | # | % | # | % |
| Street and Community Outreach | | | | | | | | | | | | |
| Don't Know | 2 | 2.4 | 3 | 3.5 | 0 | 0 | 1 | 1.2 | 0 | 0 | 6 | 7.1 |
| Not Effective | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1.2 | 1 | 1.2 |
| Somewhat Effective | 4 | 4.7 | 3 | 3.5 | 6 | 7.1 | 5 | 5.9 | 4 | 4.7 | 22 | 25.9 |
| Effective | 3 | 3.5 | 4 | 4.7 | 5 | 5.9 | 3 | 3.5 | 11 | 12.9 | 26 | 30.6 |
| Very Effective | 4 | 4.7 | 5 | 5.9 | 2 | 2.4 | 4 | 4.7 | 15 | 17.6 | 30 | 35.3 |
| Total | 13 | 15.3 | 15 | 17.6 | 13 | 15.3 | 13 | 15.3 | 31 | 36.5 | 85 | 100.0 |

$\Phi = .474$ df = 16 $p = .264$

* Significant at .01

** Significant at .05

*** Significant at .10

As indicated in Table 29, two (2.4%) consumers reported that they did not know whether social workers were effective in providing street and community outreach for changing sexual behavior, none (0.0%) of the consumers reported that social workers were not effective in providing street and community outreach for changing risky sexual behavior, four (4.7%) consumers reported that social workers were somewhat effective in

providing street and community outreach for changing risky sexual behavior, three (3.5%) consumers reported that social workers were effective in providing street and community outreach for changing risky sexual behavior, and four (4.7%) consumers reported that social workers were very effective in providing street and community outreach for changing risky sexual behavior.

Three (3.5%) consumers reported that they did not know whether physicians/ doctors were effective in providing street and community outreach for changing sexual behavior, none (0.0%) of the consumers reported that physicians/doctors were not effective in providing street and community outreach for changing risky sexual behavior, three (3.5%) consumers reported that physicians/doctors were somewhat effective in providing street and community outreach for changing risky sexual behavior, four (4.7%) consumers reported that physicians/doctors were effective in providing street and community outreach for changing risky sexual behavior, and five (5.9%) consumers reported that physicians/doctors were very effective in providing street and community outreach for changing risky sexual behavior.

None (0.0%) of the consumers reported that they did not know whether peer volunteers were effective in providing street and community outreach for changing sexual behavior, none (0.0%) of the consumers reported that peer volunteers were not effective in providing street and community outreach for changing risky sexual behavior, six (7.1%) consumers reported that peer volunteers were somewhat effective in providing street and community outreach for changing risky sexual behavior, five (5.9%) consumers reported that peer volunteers were effective in providing street and community outreach for changing risky sexual behavior, and two (2.4%) consumers

reported that peer volunteers were very effective in providing street and community outreach for changing risky sexual behavior.

One (1.2%) consumer reported that they did not know whether prevention case managers were effective in providing street and community outreach for changing sexual behavior, none (0.0%) of the consumers reported that prevention case managers were not effective in providing street and community outreach for changing risky sexual behavior, five (5.9%) consumers reported that prevention case managers were somewhat effective in providing street and community outreach for changing risky sexual behavior, three (3.5%) consumers reported that prevention case managers were effective in providing street and community outreach for changing risky sexual behavior, and four (4.7%) consumers reported that prevention case managers were very effective in providing street and community outreach for changing risky sexual behavior.

None (0.0%) of the consumers reported that they did not know whether other providers were effective in providing street and community outreach for changing sexual behavior, one (1.2%) consumer reported that other providers were not effective in providing street and community outreach for changing risky sexual behavior, four (4.7%) consumers reported that other providers were somewhat effective in providing street and community outreach for changing risky sexual behavior, eleven (12.9%) consumers reported that other providers were effective in providing street and community outreach for changing risky sexual behavior, and fifteen (17.6%) consumers reported that other providers were very effective in providing street and community outreach for changing risky sexual behavior.

As illustrated in Table 29, the statistical measurement phi ($\Phi$) was administered to test for the strength of association between type of provider and perceived effectiveness of street and community outreach. As indicated, there was a weak relationship ($\Phi = .474$) between the two variables. The chi square statistical test for significance also yielded that there was no statistically significant relationship ($p = .264$) between the two variables at .05 level of probability. Therefore, the researcher failed to reject the null hypothesis.

Table 30 is a cross tabulation which indicates HIV-infected consumers' responses regarding best type of provider and perceptions about effectiveness of community level interventions for changing risky sexual behavior.

Table 30

Best type of provider by community level interventions

| | Type of Provider | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Social Worker | | Physician/ Doctor | | Peer Vol. | | PCM | | Other | | Total | |
| | # | % | # | % | # | % | # | % | # | % | # | % |
| Community Level Interventions | | | | | | | | | | | | |
| Don't Know | 1 | 1.2 | 5 | 6.2 | 0 | 0 | 0 | 0 | 1 | 1.2 | 7 | 8.6 |
| Not Effective | 1 | 1.2 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 1 | 1.2 |
| Somewhat Effective | 2 | 2.5 | 3 | 3.7 | 2 | 2.5 | 2 | 2.5 | 7 | 8.6 | 16 | 19.8 |
| Effective | 3 | 3.7 | 2 | 2.5 | 8 | 9.9 | 7 | 8.6 | 13 | 16.0 | 33 | 40.7 |
| Very Effective | 2 | 2.5 | 3 | 3.7 | 6 | 7.4 | 0 | 0 | 13 | 16.0 | 24 | 29.6 |
| Total | 9 | 11.5 | 13 | 16.0 | 16 | 19.8 | 9 | 11.1 | 34 | 42.0 | 81 | 100.0 |

$\Phi = .660$ df = 16 $p = .004$*

* Significant at .01

** Significant at .05

*** Significant at .10

As indicated in Table 30, one (1.2%) consumer reported that they did not know whether social workers were effective in providing community level interventions for changing sexual behavior, one (1.2%) consumer reported that social workers were not effective in providing community level interventions for changing risky sexual behavior, two (2.5%) consumers reported that social workers were somewhat effective in providing

community level interventions for changing risky sexual behavior, three (3.7%) consumers reported that social workers were effective in providing community level interventions for changing risky sexual behavior, and two (2.5%) consumers reported that social workers were very effective in providing community level interventions for changing risky sexual behavior.

Five (6.2%) consumers reported that they did not know whether physicians/ doctors were effective in providing community level interventions for changing sexual behavior, none (0.0%) of the consumers reported that physicians/doctors were not effective in providing community level physicians/doctors were somewhat effective in providing community level interventions for changing risky sexual behavior, two (2.5%) consumers reported that physicians/doctors were effective in providing community level interventions for changing risky sexual behavior, and three (3.7%) consumers reported that physicians/ doctors were very effective in providing community level interventions for changing risky sexual behavior.

None (0.0%) of the consumers reported that they did not know whether peer volunteers were effective in providing community level interventions for changing sexual behavior, none (0.0%) of the consumers reported that peer volunteers were not effective in providing community level interventions for changing risky sexual behavior, two (2.5%) consumers reported that peer volunteers were somewhat effective in providing community level interventions for changing risky sexual behavior, eight (9.9%) consumers reported that peer volunteers were effective in providing community level interventions for changing risky sexual behavior, and six (7.4%) consumers reported that

peer volunteers were very effective in providing community level interventions for changing risky sexual behavior.

None (0.0%) of the consumers reported that they did not know whether prevention case managers were effective in providing community level interventions for changing sexual behavior, none (0.0%) of the consumers reported that prevention case managers were not effective in providing community level interventions for changing risky sexual behavior, two (2.5%) consumers reported that prevention case managers were somewhat effective in providing community level interventions for changing risky sexual behavior, seven (8.6%) consumers reported that prevention case managers were effective in providing community level interventions for changing risky sexual behavior, and none (0.0%) of the consumers reported that prevention case managers were very effective in providing community level interventions for changing risky sexual behavior.

One (1.2%) consumer reported that they did not know whether other providers were effective in providing community level interventions for changing sexual behavior, none (0.0%) of the consumers reported that other providers were not effective in providing community level interventions for changing risky sexual behavior, seven (8.6%) consumers reported that other providers were somewhat effective in providing community level interventions for changing risky sexual behavior, thirteen (16.0%) consumers reported that other providers were effective in providing community level interventions for changing risky sexual behavior, and thirteen (16.0%) consumers reported that other providers were very effective in providing community level interventions for changing risky sexual behavior.

As illustrated in Table 30, the statistical measurement phi (Φ) was administered to test for the strength of association between type of provider and perceived effectiveness of community level interventions. As indicated, there was a moderate relationship (Φ = .660) between the two variables. The chi square statistical test for significance also yielded that there was a statistically significant relationship (p = .004) between the two variables at .01 level of probability. Therefore, the researcher rejected the null hypothesis.

Table 31 is a cross tabulation which indicates HIV-infected consumers' responses regarding best type of provider and perceptions about effectiveness of prevention case management for changing risky sexual behavior.

Table 31

Best type of provider by prevention case management

| | Type of Provider | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | Social Worker | | Physician/ Doctor | | Peer Vol. | | PCM | | Other | | Total | |
| | # | % | # | % | # | % | # | % | # | % | # | % |
| Prevention Case Management | | | | | | | | | | | | |
| Don't Know | 0 | 0 | 3 | 3.7 | 0 | 0 | 1 | 1.2 | 1 | 1.2 | 5 | 6.2 |
| Not Effective | 0 | 0 | 0 | 0 | 0 | 0 | 2 | 2.5 | 0 | 0 | 2 | 2.5 |
| Somewhat Effective | 1 | 1.2 | 1 | 1.2 | 0 | 0 | 5 | 6.2 | 3 | 3.7 | 10 | 12.3 |
| Effective | 6 | 7.4 | 2 | 2.5 | 2 | 2.5 | 15 | 18.5 | 12 | 14.8 | 37 | 45.7 |
| Very Effective | 0 | 0 | 5 | 6.2 | 1 | 1.2 | 5 | 6.2 | 16 | 19.8 | 27 | 33.3 |
| Total | 7 | 8.6 | 11 | 13.6 | 3 | 3.7 | 28 | 34.6 | 32 | 39.5 | 81 | 100.0 |

$\Phi = .582$ $df = 16$ $p = .037$**

* Significant at .01

** Significant at .05

*** Significant at .10

As indicated in Table 31, none (0.0%) of the consumers reported that they did not know whether social workers were effective in providing prevention case management for changing sexual behavior, none (0.0%) of the consumers reported that social workers were not effective in providing prevention case management for changing risky sexual behavior, one (1.2%) consumer reported that social workers were somewhat effective in

providing prevention case management for changing risky sexual behavior, six (7.4%) consumers reported that social workers were effective in providing prevention case management for changing risky sexual behavior, and none (0.0%) of the consumers reported that social workers were very effective in providing prevention case management for changing risky sexual behavior.

Three (3.7%) consumers reported that they did not know whether physicians/ doctors were effective in providing prevention case management for changing sexual behavior, none (0.0%) of the consumers reported that physicians/doctors were not effective in providing prevention case management for changing risky sexual behavior, one (1.2%) consumer reported that physicians/doctors were somewhat effective in providing prevention case management for changing risky sexual behavior, two (2.5%) consumers reported that physicians/doctors were effective in providing prevention case management for changing risky sexual behavior, and five (6.2%) consumers reported that physicians/doctors were very effective in providing prevention case management for changing risky sexual behavior.

None (0.0%) of the consumers reported that they did not know whether peer volunteers were effective in providing prevention case management for changing sexual behavior, none (0.0%) of the consumers reported that peer volunteers were not effective in providing prevention case management for changing risky sexual behavior, none (0.0%) of the consumers reported that peer volunteers were somewhat effective in providing prevention case management for changing risky sexual behavior, two (2.5%) consumers reported that peer volunteers were effective in providing prevention case management for changing risky sexual behavior, and one (1.2%) consumers reported that

peer volunteers were very effective in providing prevention case management for changing risky sexual behavior.

One (1.2%) consumer reported that they did not know whether prevention case managers were effective in providing prevention case management for changing sexual behavior, two (2.5%) consumers reported that prevention case managers were not effective in providing prevention case management for changing risky sexual behavior, five (6.2%) consumers reported that prevention case managers were somewhat effective in providing prevention case management for changing risky sexual behavior, fifteen (18.5%) consumers reported that prevention case managers were effective in providing prevention case management for changing risky sexual behavior, and five (6.2%) consumers reported that prevention case managers were very effective in providing prevention case management for changing risky sexual behavior.

One (1.2%) consumer reported that they did not know whether other providers were effective in providing prevention case management for changing sexual behavior, none (0.0%) of the consumers reported that other providers were not effective in providing prevention case management for changing risky sexual behavior, three (3.7%) consumers reported that other providers were somewhat effective in providing prevention case management for changing risky sexual behavior, twelve (14.8%) consumers reported that other providers were effective in providing prevention case management for changing risky sexual behavior, and sixteen (19.8%) consumers reported that other providers were very effective in providing prevention case management for changing risky sexual behavior.

As illustrated in Table 31, the statistical measurement phi (Φ) was administered to test for the strength of association between type of provider and perceived effectiveness of prevention case management. As indicated, there was a moderate relationship (Φ = .582) between the two variables. The chi square statistical test for significance also yielded that there was a statistically significant relationship (p = .037) between the two variables at .05 level of probability. Therefore, the researcher rejected the null hypothesis.

# CHAPTER V

## CONCLUSIONS AND RECOMMENDATIONS

The research study was designed to answer four questions about perceived effectiveness of services by HIV-infected consumers within the state of Georgia. This study was an extrapolation of the epidemiological profile developed by KAREnet, in conjunction with the state. This chapter will consist of two sections: conclusions and recommendations. In order to provide the conclusions of this research, the results of each research question will discussed systematically. After the discussion, a brief summation will be provided for each research question as a conclusion. It is important to remember that each independent variable was measured across five services (individual level intervention, group level intervention, street and community outreach, community level intervention, and prevention case management).

The second section will discuss recommendations. The recommendations will provide suggestions for future directions of research for social workers, clinicians, medical staff, and administrators.

Research Question 1: Is there a relationship between demographic variables and the perceived effectiveness of HIV/AIDS related services for risk reduction by the HIV-infected consumer within the state of Georgia?

There were three demographic variables that were analyzed: gender, age category, and ethnicity. Gender was defined by three categories: female, male, and transgender. It is important to remember that 69.9% (Table 1) of the sample population was male. There was one service that yielded a statistically significant relationship. This was the relationship between perceived effectiveness of prevention case management for changing risky sexual behavior and gender.

The chi square statistical test for significance yielded that there was a statistically significant relationship ($p = .071$) between the two variables at .10 level of probability (Table 6). Therefore, the researcher rejected the null hypothesis.

As mentioned earlier, there was a statistically significant relationship was found between prevention case management and perceived effectiveness of services. This statistically significant relationship may be indication that the CDC's third strategy in the "Prevention with Positives" campaign is working. The third strategy mentioned was prevention education. This is a strategy that is primarily used to prevent re-infections and new infections. If this is indication that this strategy is working, then this may also be an indication that there is a decrease in re-infections among HIV-infected consumers, as well as, an increase in safer sex practices among the HIV-infected population.

The second category that was used define demographic variables was age category. In many of the focus groups that were conducted, there appeared to be a

difference in the concerns expressed among the various age groups. Chi square revealed one statistically significant relationship. This relationship was between perceived effectiveness of services of community level interventions for changing risk sexual behavior and age category. The chi square statistical test for significance yielded that there was a statistically significant relationship ($p = .000$) between the two variables at .01 level of probability (Table 10). This may indicate that certain age groups respond better to community level interventions for maintaining a better quality of life through healthcare.

The last variable that was used to define the category of demographic variables was race/ethnicity. There were two statistically significant relationships discovered. The chi square statistical test for significance yielded that there was a statistically significant relationship ($p = .048$) between perceived effectiveness of individual level interventions for changing risky sexual behavior and race/ethnicity at the .05 level of probability (Table 12); and chi square also yielded a statistically significant relationship between street and community outreach ($p=.089$) and perceived effectiveness of services at the .10 level of probability (Table 16).

It is important to remember that 69.3% of the respondents were African-American; therefore, one may surmise that the African-American population is more likely to perceive the services of individual level interventions and street and community outreach effective. These results appear to indicate that African-Americans may prefer and be more receptive to one-to-one interventions. They also indicate that African-Americans may be uncomfortable receiving treatment in certain environments such as health departments and clinics or unable to get to clinic due to possible

transportation issues, drug use, or mental health; however, they are willing to receive treatment if the environment can be made conducive thus street and community outreach.

Research Question 2: Is there a relationship between barriers to services and the perceived effectiveness of HIV/AIDS related services for risk reduction by the HIV-infected consumer within the state of Georgia?

An ANOVA was administered to measure the relationship of variance between and within groups. The variable that was operationalized as a barrier was living area (urban, suburban, and rural). It is important to note that living area was tested across five services (individual level intervention, group level intervention, street and community outreach, community level intervention, and prevention case management).

This was one of the most important findings. In at least four of the services that were analyzed, there was evidence that consumers who lived in the urban areas, found the services to be more effective than consumers who lived in either suburban or rural areas. These results may be indication that stigma (from both provider and community) is more prevalent within smaller communities. The aforementioned results may also be indication that resources are limited within smaller communities. Two of the themes that were consistent within the focus groups that were conducted by KAREnet team members in 2004 were stigma and limited options for available services and clinics.

Many of the consumers within the smaller communities, spoke of how some of the healthcare providers appeared as though it was unsafe to touch them. The consumers

also proceeded to report that in many instances this made them feel uncomfortable; thereby, yielding temptation not to continue to seek services.

The other thematic issue that continued to surface within the focus groups was the concern of limited resources. The limited resources ranged from sharing a physician with other agencies to having one staff member provide a magnitude of services – health educator, social worker, and nurse. Limited resources may cause one to perceive services as being ineffective or inappropriate; because, if one provider is fulfilling multiple provider roles, the most efficient care will not be provided.

However, it is also important to mention that within the focus groups conducted in rural and suburban areas was how attentive the staff was while services were being received. One may hypothesize that consumers in rural areas find service delivery satisfactory; however, because there are limited resources effectiveness of services is not as satisfactory as those in urban areas. Conversely, many of the consumers, who received services within the urban areas complained of service delivery, but appeared to agree that the services provided were effective.

Research Question 3: Is there a relationship between years diagnosed and the perceived effectiveness of HIV/AIDS related services for risk reduction by the HIV-infected consumer within the state of Georgia?

There was one service that yielded a statistically significant relationship. This was the relationship between perceived effectiveness of individual level intervention for changing risky sexual behavior for changing risky sexual behavior and years diagnosed. The ANOVA yielded a significant ($p$ =.059) mean difference at the .10 level of

probability (Table 22) . This result indicated that individuals who had been diagnosed for over 20 years found individual level interventions to be more effective than those consumers who had been diagnosed between 16 and 20 years. These results could be indication that consumers who have been diagnosed between 16 and 20 years are not being provided the necessary services to maintain a better quality of life.

One of the services that may be necessary, but is not being provided is financial assistance or insurance assistance. It is important to note that many of these individuals who have been diagnosed between 16 and 20 years may have reached a point where there health does not allow them to maintain stable employment. As a result, insurance for medication and healthcare may be limited, as well as, financial assistance for healthcare and living expenses.

Research Question 4: Is there a relationship between type of provider and perceived effectiveness of HIV/AIDS related services for risk reduction by the HIV-infected consumer within the state of Georgia?

There were two statistically significant relationships discovered. The chi square statistical test for significance yielded that there was a statistically significant relationship ($p$ = .004) between perceived effectiveness of community level interventions for changing risky sexual behavior and type of provider at the .01 level of probability (Table 30); and chi square also yielded a statistically significant relationship ($p$=.037) between perceived effectiveness of prevention case management for changing risky sexual behavior and type of provider at the .05 level of probability (Table 31).

The primary finding of this hypothesis indicated that type of provider may be a key element in how provision of services may be perceived. Many consumers within the focus groups discussed how one provider usurped several roles. As a result, many of the consumers stated that there were inadequacies in many of the social and educational services that were provided.

Tables 26 -31 also indicated that social workers were not considered to be the best type of provider for any of the services that were examined. This may indicate that there are not enough social workers making an impact in the area of HIV/AIDS or that social workers are not making a positive impact in the HIV/AIDS arena. This may also indicate that many agencies are using medical models and that social workers are not inclusive of these models.

## Recommendations

The aforementioned research has examined some of the services provided to HIV-infected consumers within the state of Georgia.

Recommendations for the Organization:

1. Employ the delivery system design of the Wagner's Chronic Care Model. The delivery system design of the chronic care model discusses defining team roles and distribution of tasks, conducting follow-up with consumers. Defining team roles and distribution of tasks may give the Director of an organization more insight on the amount of trained individuals needed to assist with having an efficient staff provide effective services. In other words, this may eliminate one provider having too many roles.

2. Employ the organization of healthcare element of the Wagner's Chronic Care Model. Developing agreements that facilitate care coordination within and across organizations may alleviate some of the problems with limited options within a rural or suburban area. If one collaborates with other organizations, other needed services may be provided to the consumer. This element is also important; because, it suggests providing incentives based on quality of care. If an organization provides incentives for better quality of care, it may compel the staff to provide more effective and useful services to the consumer. The last important component of this element is the promotion of effective improvement strategies at all levels. This is important because in many instances employees or agencies are a representation of its leader.

3. Employ self-management strategies (element of Wagner's Chronic Care Model). The primary component that will be recommended is the emphasis on the consumer's central role in managing his or her health. One of the central roles in maintaining one's health is advocating for oneself. When a consumer feels that he or she has been discriminated against by a healthcare provider, he or she should file a complaint. It could be surmised that an organization cannot provide effective services to a consumer, if the consumer feels some discrimination. This type of stress may lead to an unhealthy quality of life (e.g. not keeping doctor's appointments).

Recommendations for the Practitioner, Clinician, or Healthcare Provider:

1. One of the recommendations the researcher has for providers is to make sure that they are in a field where they have limited prejudices and can remain professional and not judgmental. If one has prejudices about drug use, strong opinions regarding sexual mores different from his or her own, or sexual orientation, the suggestion is to re-evaluate your place of employment. If a provider places judgment on the consumers, the provider is not being helpful or effective.
2. Educate oneself about all aspects the disease by reading on the topic and attending seminars. If the provider recognizes that there are prejudices within oneself after being educated about the disease, then perhaps one should consider working in area where he or she can be of better service.
3. Providers should develop more creative avenues to engage consumers in education and medical treatment.

These are only a few suggestions that have been made. Although the researcher failed to reject many of the hypotheses, it is important to remember that across all of the demographic variables (gender, age, and race) that were analyzed, the consumers seemed to agree that there was some degree of effectiveness within all of the services that were measured. Results of the aforementioned are indication that overall the state of Georgia is providing effective services, however, the services may need some improvement.

# APPENDIX A

## Letter of Authorization

October 12, 2006

Dissertation Committee
Doctoral Candidate, Donna Sewell
Clark Atlanta University
Atlanta, GA 30303

Re: Letter of Authorization

To Whom It May Concern:

As Project Director and Principal Investigator, I, Dr. Timothy A. Akers, hereby authorize Ms. Donna Sewell, Social Work Doctoral Student, the right to use and analyze selected data collected for the 2004 HIV/AIDS Community Services Assessment report for the State of Georgia. Authorization to use selected data for dissertation research has also been granted from the funder, the Georgia Department of Human Resources, to Kennesaw State University's *KAREnet* team (Kennesaw AIDS Research and Evaluation Network). Ms. Sewell, however, assumes full responsibility for her dissertation data analysis and assumes all responsibility for the accuracy (or, if determined inaccuracy) of the data. Neither Kennesaw State University nor the Georgia Department of Human Resources assumes responsibility for Ms. Sewell's analytical findings. Should there be any questions, please feel free to contact the Office of Research for further clarification and discussion.

Sincerely,

Timothy A. Akers

Timothy A. Akers, M.S., Ph.D.
Professor & Assistant Dean for Research and Graduate Studies
Kennesaw State University
WellStar College of Health and Human Services
Office of Research

APPENDIX B

Variable Table

| Variables | Scale of Measurement | Data Entry Code | Source of Data |
|---|---|---|---|
| *Demographic/ Consumer Information* | | | |
| Gender | Nominal | 1= Female<br>2= Male<br>3= Transgender | Consumer Survey |
| Age Category | Ordinal | 1= Under 18 years<br>2= 18 -24 years<br>3= 25-34 years<br>4= 35-44 years<br>5= 45-54 years<br>6= 55-64 years<br>7= Over 64 years | Consumer Survey |
| Ethnicity/Race | Nominal | 1= African-American<br>2= Asian-American<br>3= European-American<br>4= Native-American<br>5= Multi-racial | Consumer Survey |
| Latino/Hispanic | Dichotomous | 1= No<br>2= Yes | Consumer Survey |
| Sexual Orientation | Nominal | 1= Heterosexual<br>2= Bisexual<br>3= Not Sure/ Exploring<br>4= Gay Male<br>5= Lesbian<br>6=Transgender | Consumer Survey |
| Household Income | Ordinal | 1= $5,000 or less<br>2= $5,001 - $15,000<br>3= $15,001-$25,000<br>4= $25,001-$35,000<br>5= $35,001-$45,000<br>6= $45,001 and over | Consumer Survey |
| Living Area | Nominal | 1= Urban<br>2= Suburban<br>3= Rural | Consumer Survey |

APPENDIX B (continued)

| | | | |
|---|---|---|---|
| HIV Status | Nominal | 1= HIV with Symptoms<br>2= HIV w/o Symptoms<br>3= AIDS with Symptoms<br>4= AIDS w/o Symptoms | Consumer Survey |
| Years Diagnosed | Ordinal | 1= Less than one year<br>2= 1-5 years<br>3= 6-10 years<br>4= 11-15 years<br>5= 16-20 years<br>6= over 20 years | Consumer Survey |
| Injection Drug Use | Dichotomous | 1= No<br>2= Yes | Consumer Survey |

| Variables | Scale of Measurement | Data Entry Code | Source of Data |
|---|---|---|---|
| Independent Variables | | | |
| *Demographic Variables= Gender, Age Category, Race* | | | |
| Gender | Nominal | 1= Female<br>2= Male<br>3= Transgender | Consumer Survey |
| Age Category | Ordinal | 1= Under 18 years<br>2= 18 -24 years<br>3= 25-34 years<br>4= 35-44 years<br>5= 45-54 years<br>6= 55-64 years<br>7= Over 64 years | Consumer Survey |
| Ethnicity/Race | Nominal | 1= African-American<br>2= Asian-American<br>3= European-American<br>4= Native-American<br>5= Multi-racial | Consumer Survey |
| *Barriers= Living Area* | | | |
| Living Area | Nominal | 1= Urban<br>2= Suburban<br>3= Rural | Consumer Survey |

APPENDIX B (continued)

| | | | |
|---|---|---|---|
| *Years Diagnosed* | | | |
| Years Diagnosed | Ordinal | 1= Less than one year<br>2= 1-5 years<br>3= 6-10 years<br>4= 11-15 years<br>5= 16-20 years<br>6= over 20 years | Consumer Survey |
| *Type of Provider* | | | |
| Type of Provider | Nominal | 1= Nurse<br>2= Social Worker<br>3= Physician/ Doctor<br>4= Peer Volunteer<br>5= Prevention CM<br>6= Other<br>7= Multiple Answers Given | Consumer Survey |

| Variables | Scale of Measurement | Data Entry Code | Source of Data |
|---|---|---|---|
| Dependent Variables | | | |
| *Perceived Effectiveness of Services* | | | |
| Individual Level Intervention | Ordinal | 1= Don't Know<br>2= Not Effective<br>3= Somewhat Effective<br>4= Effective<br>5= Very Effective | Consumer Survey |
| Group Level Intervention | Ordinal | 1= Don't Know<br>2= Not Effective<br>3= Somewhat Effective<br>4= Effective<br>5= Very Effective | Consumer Survey |
| Street and Community Outreach | Ordinal | 1= Don't Know<br>2= Not Effective<br>3= Somewhat Effective<br>4= Effective<br>5= Very Effective | Consumer Survey |
| Community Level Intervention | Ordinal | 1= Don't Know<br>2= Not Effective<br>3= Somewhat Effective<br>4= Effective<br>5= Very Effective | Consumer Survey |

APPENDIX B (continued)

| | | | |
|---|---|---|---|
| Prevention Case Management | Ordinal | 1= Don't Know<br>2= Not Effective<br>3= Somewhat Effective<br>4= Effective<br>5= Very Effective | Consumer Survey |

Key:
w/o = without
CM= Case Manager

APPENDIX C

Recoded Variables

| *Original Variables* | *Recoded Variables* |
|---|---|
| *GENDER* | |
| 1=Female<br>2=Male<br>3=Transgender (Female Identified)<br>4= Transgender (Male Identified) | 1= Female<br>2= Male<br>3= Transgender |
| *AGE* | |
| Initial question asked exact age. Researcher grouped the variables from the youngest to the oldest age. | 1= Under 18 years<br>2= 18 -24 years<br>3= 25-34 years<br>4= 35-44 years<br>5= 45-54 years<br>6= 55-64 years<br>7= Over 64 years |
| *ANNUAL HOUSEHOLD INCOME* | |
| 1= $2,500 or less<br>2= $2,501-$5,000<br>3= $5,001-$10,000<br>4= $10,001-$15,000<br>5= $15,001-$20,000<br>6= $20,001-$25,000<br>7= $25,001-$30,000<br>8= $30,001-$35,000<br>9= $35,001-$40,000<br>10= $40,001-$45,000<br>11= $45,001-$50,000<br>12= $50,001- or more | 1= $5,000 or less<br>2= $5,001 - $15,000<br>3= $15,001-$25,000<br>4= $25,001-$35,000<br>5= $35,001-$45,000<br>6= $45,001 and over |
| *YEARS DIAGNOSED* | |
| Initial question asked year and month of diagnosis. Researcher used the year of diagnosis, with the last year being 2004. | 1= Less than one year<br>2= 1-5 years<br>3= 6-10 years<br>4= 11-15 years<br>5= 16-20 years<br>6= over 20 years |

APPENDIX C (continued)

| *TYPE OF PROVIDER* | |
|---|---|
| 1= Nurse<br>2= Social Worker<br>3= Physician/Doctor<br>4= Peer Volunteer<br>5= Prevention CM<br>6= Other<br>7= Multiple Answers Given | 1= Social Worker<br>2= Physician/Doctor<br>3= Peer Volunteer<br>4= Prevention Case Manager<br>5= Other |

APPENDIX D

Questionnaire

HIV-Infected Consumers' Perceived Effectiveness of HIV/ AIDS- related Services for Risk Reduction within the State of Georgia

**Section I: Demographic Information**

*Place a mark (X) next to the appropriate item. Choose only one answer for each question.*

1. Gender: 1) _____ Female 2) _____ Male 3) _____ Transgender

2. Age Group: 1) _____Under 18 2) _____ 18-24 3) _____ 25 – 34

4) _____ 35 – 44 5) _____ 45 – 54 6) _____ 55- 64

7) _____ over 65

3. My ethnicity/race: 1) _____ African-American/Black

2) _____ Asian-American/Asian/Pacific Islander

3) _____ European-American/Caucasian

4) _____ Native-American/American-Indian/Alaskan Native

5) _____ Multi-racial, please specify _____

4. Are you Latino/Hispanic?

1) _____No

2) _____Yes

APPENDIX D (continued)

5. What is your sexual orientation?

1) _____ Heterosexual (straight)

2) _____ Bisexual

3) _____ Not sure (Exploring)

4) _____ Homosexual (Gay male)

5) _____ Homosexual (Lesbian)

6) _____ Transgender

6. What is your household estimated yearly income from all sources and before taxes?

1) _____ $5,000 or less
2) _____ $5,001 – $15,000
3) _____ $15,001 – $25,000
4) _____ $25,001 – $35,000
5) _____ $35,001 – $45,000
6) _____ $45,001 and over

7. Which of the following best describes the area where you live?

1) _____ Urban (Large city/metropolitan area)

2) _____ Suburban (Outlying areas close to a large city)

3) _____ Rural (Small town or in the country)

8. How would you describe your current HIV status?

1) _____ HIV positive with symptoms

2) _____ HIV positive without symptoms

3) _____ AIDS diagnosis with symptoms

4) _____ AIDS diagnosis without symptoms

APPENDIX D (continued)

9. How long have you been living (diagnosed) with HIV?

   1) _____less than one year

   2) _____1-5 years

   3) _____6-10 years

   4) _____11-15 years

   5) _____16-20 years

   6) _____21 years or over

10. Have you injected drugs within the last 12 months?

   1) _____ No

   2) _____ Yes

**Section II:** *Write the appropriate number (1 thru 5) in the blank beside each statement. Choose only one answer for each question.*

**1=Don't Know 2=Not Effective 3=Somewhat Effective 4=Effective 5=Very Effective**

**Based on what you know, how effective are the following services in changing risky sexual behavior?**

11. _____ Individual level intervention is effective for changing risky sexual behavior.

12. _____Group level intervention is effective for changing risky sexual behavior.

13. _____Street and community outreach is effective for changing risky sexual behavior.

14. _____Community level intervention is effective for changing risky sexual behavior.

15. _____Prevention case management is effective for changing risky sexual behavior.

APPENDIX D (continued)

**Section III.** *Please complete the following statement by placing the number in the blank that best completes your thoughts.*

**1= Nurse 2=Social Worker 3=Physician/Doctor 4=Peer Volunteer**
**5= Prevention Case Manager 6= Other 7= Multiple Answers**

**The best type of provider to deliver the following services:**

16._____Individual Level Intervention

17._____Group Level Intervention

18._____Street and Community Outreach

19._____Community Level Intervention

20._____Prevention Case Management

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